

'It's Important to Know In Time'

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The Newspaper of the Industry

Air Conditioning & REFRIGERATION

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Inside Dope

By George F. Taubeneck

Taxes Vs. Prosperity
Old, Tired Men
Rapid Turnover Helps
Keep America 'American'
Object to Ninecompoops
Another Rum Plan

Taxes Vs. Prosperity

It's all very well to talk about after-the-war opportunities in this and that, but how will drastic taxes affect all opportunities? We'll have to pay off those unimaginably enormous war debts, won't we? We'll have to support millions of veterans (through pensions, bonuses, and other benefits), won't we? We'll have to accommodate new concessions to organized labor, won't we? And we'll have to pour out billions of dollars on food, clothes, and rehabilitation.

If social security is to be provided everybody but the employer—and if the employer must turn over practically all he makes to the government in taxes—what's the use of wearing yourself out to bring all these tremendous potentials out of the dream stage?

Good questions, these, and questions which are lugubriously considered by too many men who, in the past, might have been depended upon to lead the way, through rewarded enterprise, toward the employment levels and income heights we must seek if America is to avoid disastrous economic and social turmoil.

It's quite true that not inconsiderable segments of the "new managerial aristocracy" are preparing to relinquish their present inadequately compensated toil. They've been working harder and harder and worrying more and more for less and less, and becoming so increasingly discouraged about the future, that droves of them are ready to retire to the farm and fishing.

It's also true that large numbers of jittery capitalists are hurriedly—and sometimes, no doubt, ill-advisedly—shifting their investments to Latin America, Canada, Africa, Australia, and the Middle East, where they hope to enjoy tax advantages.

Old, Tired Men

Even so, all these apparently significant moves are not to be taken as harbingers of the twilight of America. They are moves of old, tired men—men who, like our present old, tired Administration, believe that the United States has passed the zenith of its development, and from here on in will seek only to divide the "take" more and more toward a patently unfeasible low level of economic opportunity and reward.

Such old, tired pessimists overlook the perpetual resurgence of youth in a land which still—despite the handicaps imposed by ageing, weary political economists during the last dozen unhappy years—provides unequalled opportunities for vision, faith, energy, and guts.

Tax legislation, however, will for a generation levy all business men on an unconscionable proportion of their time, as well as their income. It will probably be necessary, for so long as the readers of these notes are active, that all employers allocate far too many of their working hours—time which might more productively be employed on merchandising and production problems, toward the end of greater employment and prosperity for all—for the task of gaining for themselves and their businesses the most salubrious tax situation they can wangle.

In such endeavor they have two avenues down which their energies can be directed: taking best advan-

WPB Urged by Labor to Speed Materials Now

Refrigerator & Washer Men Say WPB Can Shorten Time of Reconversion

WASHINGTON, D. C.—Special assistance in obtaining materials and components in preparation for reconversion was urged at recent meetings of the Domestic Mechanical Refrigerator and Domestic Laundry Equipment Labor Advisory Committees, WPB reported last week.

Committee members urged WPB to permit refrigerator and laundry equipment manufacturers to place orders and receive raw material and components well in advance of final assembly so that employment may be maintained at a high level when war orders are cut back after "Victory in Europe" Day.

Production of mechanical refrigerators and laundry equipment is a complicated process, committee members emphasized. Both industries deal with a large number of suppliers in obtaining the wide variety of materials and components needed to make their products, they explained.

After manufacturers are authorized to resume production, they will require an average of at least six months to place orders for materials and components, set up production lines, and make a minimum practical run of refrigerators or laundry

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Program for Rema's Fall Meeting At Hot Springs Outlined

PITTSBURGH—A well-planned program in which each session will cover a special order of business was revealed in plans announced for the meeting of the Refrigeration Equipment Manufacturers Association to be held Nov. 15-17 at The Homestead, Hot Springs, Va.

The opening session on the morning of Nov. 15 will be devoted to 10-minute presentations on such association matters as jobber and service organization relationships, plans for a "streamline" Victory show, post-war credits, etc. Product group meetings will be held that afternoon. Morning session on Nov. 16 will be given over to markets—parts replacement, capital equipment, and export.

The afternoon session Nov. 16 will

(Concluded on Page 5, Column 1)

Gorton Directs 'CP' Gas Range Program

NEW YORK CITY—James I. Gorton has been appointed promotion director of the "CP" gas range program, it has been announced by Lloyd C. Ginn, chairman of the "CP" gas range manufacturers division of the Association of Gas Appliances & Equipment Manufacturers.

The major part of the "CP" advertising appropriation will be used to support the \$6,000,000 national and local newspaper advertising program now being carried on by the gas industry. Full page "CP" advertisements will be scheduled in trade publications covering the appliance dealers, furniture, hardware, and

(Concluded on Page 32, Column 2)

C.E.D. Advises Dealers in Detroit To Train Postwar Salesmen Now

By C. Dale Mericle

DETROIT—If the appliance and radio sales and service organizations in the Detroit area can pull through the automobile reconversion period, and they should be able to do that, they will face a rosy five-year period, members of the refrigeration, appliance, and radio fields were told here recently by William Leininger, Wayne county chairman of the Committee for Economic Development and president of National Stamping Co.

A special meeting of the Refrigeration Contractors Association of Detroit, and all others interested was held at the Detroit Edison Co. auditorium so that C.E.D. repre-

sentatives could outline their plans. In addition, H. Carleton Havens, district chief of the Office of Civilian Requirements, and Paul Ritter, manager of the local OCR service trades division, discussed current problems.

Appliance dealers ought to start now to train salesmen for the post-war period, and bring up their service departments to prewar standards, Mr. Leininger advised. And much of this work can be profitably done while the Detroit automobile factories are reconverting, he believes.

"The automobile industry will probably be one of the last to return to production of peacetime goods," (Concluded on Page 9, Column 1)

Orders for Postwar Deliveries Okayed

WASHINGTON, D. C.—A purchaser may place or a manufacturer may accept a postwar purchase order now which is not to be filled until after the removal of applicable War Production Board restrictions, provided the manufacturer does not schedule such an order for production, WPB announced recently.

WPB cited the recent Interpretation 11 to Priorities Regulation 1 which states:

"Some orders and regulations of the War Production Board forbid the placing or acceptance of purchase orders for certain materials or prod-

(Concluded on Page 4, Column 3)

'Private' Sales Cause Most Price Violations

RICHMOND, Va.—Person-to-person sales of refrigerators have been one of the chief sources of price violations in Richmond, Mrs. Ross Campbell, vice chairman of the price division of the War Price and Rationing Board, has reported.

Mrs. Campbell said that sales are not in stores, but between the owner of the second-hand refrigerator and the buyer, and she added that the amount of the violation often runs as high as from \$60 to \$150.

Some of these sellers, she explained, "tell us of being offered as much as \$50 'reward' from buyers."

DETROIT—Refrigerators are first in the hearts of Detroiters, according to an unusually extensive poll conducted by the *Detroit Times* to determine what consumers in this, perhaps the greatest industrial district of the world, want most when production of civilian goods is resumed.

Of 30 items most badly needed, refrigerators are tops with 5,341 votes, leading such things as Nylon hosiery, rubber tires, automobiles, alarm clocks, girdles, garters, and bobby pins. In second place are washing machines, wanted most by 4,956 consumers.

Nylon hosiery is in third place with 4,798 votes. Irons are wanted most by 3,408 (eighth place), radios by 3,002 (twelfth), stoves by 2,854 (thirteenth), toasters by 2,541 (sixteenth), and vacuum cleaners by 1,759 (twenty-first). In last place are suspenders.

(Concluded on Page 4, Column 1)

Gibson Gets 'Spot' Okay For Experimental Units

GREENVILLE, Mich.—Gibson Refrigerator Co. here has received the green light for experimenting and building models of domestic and commercial refrigerators. Approval was granted by the War Production Board local office in Grand Rapids, Mich.

Frozen Food Industry Expecting 400% Increase in Sales After War

NEW YORK CITY—Lowered prices, vastly expanded distribution, and adequate home storage facilities will combine to quadruple frozen food sales within five years after the war, believe food producers and equipment manufacturers, according to a survey by the *Wall Street Journal*.

Sales should zoom to an annual figure of 3.5 billion pounds, compared to the record 750 million pound volume this year, it is thought.

Food freezers are striving for a 20% cut in frozen food prices after the war—a cut that will bring these items down to about the level of high quality canned goods and fresh produce, permitting competition on the basis of both price and quality.

One of the big factors in postwar growth of this business is the expected vast increase in distribution outlets. Not only will many more stores handle frozen foods, but door-to-door delivery by refrigerated trucks and self-service "automats" will greatly augment present channels, reports the *Wall Street Journal*.

Also important is the plan to offer a much greater variety of frozen foods. Today there are approximately 75 different kinds of food being frozen commercially, but post-war plans of the big packers call for more than 200 varieties, including complete pre-cooked meals.

"Making it easier for housewives to buy products is one of the principal aims of all quick freezers," states the article. "A leading processor, for example, will open a chain of about 50 self-service stores in the New York area, dealing exclusively in frozen foods. The first of these 'Frozen Food Centers' is expected to be open around the first of next year. Present plans are to extend the chain throughout the country as rapidly as conditions permit.

"These markets will somewhat resemble automat restaurants, with the various foods stored in refrigerated glass-doored compartments. The 'centers' will offer for rent a battery of frozen food lockers, each with a capacity of 250 pounds.

(Concluded on Page 4, Column 4)

Existing Prices To Hold During Reconversion

'Necessary Adjustments' Will Be Allowed, Says OPA Chief

WASHINGTON, D. C.—Existing price ceilings on consumer durable goods items will be maintained, with adjustments where necessary, during the reconversion period, it was stated last week by Chester Bowles, OPA administrator, in an official memorandum on reconversion pricing.

Indicating that efforts will be made to "hold the line" of 1942 prices, Mr. Bowles said that—

"In practically all consumer durable goods industries there have, of course, been increases in wage rates and some increases in material prices. But we know from the wartime experience that increased wage rates and material prices need not be fully reflected in price increases for the finished product.

"In general," declared the OPA administrator, "Our Objective in setting ceiling prices for these new goods will be the manufacturer's own 1942 prices. These are the prices he was charging when he converted from civilian to war production. And with few exceptions, these are the ceilings in effect today for any manufacturer still producing the same or similar goods.

"It is our hope that ceiling prices for the major fields can be arrived at through industry-wide conferences in Washington. We are now planning meetings with members of the automobile, electric refrigerator, washing machine, radio, and a few other industries—representing on a dollar volume basis 80% of the entire reconversion pricing problem.

(Concluded on Page 4, Column 1)

Electrical Industry Urged by N.E.W.A. To Hire Veterans

NEW YORK CITY—A program to employ U. S. armed services veterans in the electrical industry—to include retailing and service firms as well as manufacturing outlets—has been proposed by the National Electric Wholesalers Association, in a bulletin recently issued from its headquarters here.

Pointing out that the time for launching this employment program cannot be determined until a number of factors become clearer, the bulletin says that it is obvious, however, that the needs of the industry will dictate a certain sequence as to the type of men needed during certain phases of the industry's return to normal merchandising practices.

"Need of the industry at present, and probably for at least the balance of this year, if not well into 1945, will be for capable and experienced service and repair personnel," declares the bulletin. "Ranks in this field have been depleted by at least 50%, and the volume of repair business has, at the same time, increased very materially.

"It appears that the practical results of the initial period of this employment program will be in terms of increasing personnel available for appliance and equipment repairs. As an example: one of the greatest fields for equipment sales will be in the installation of new commercial refrigeration and air conditioning equipment—to provide facilities in retail and wholesale

(Concluded on Page 13, Column 1)

Cooking Equipment Producers See Quick Shift on Cutbacks

WASHINGTON, D. C.—Manufacturers of commercial cooking equipment will be in a position to resume production for the civilian market without delay when cutbacks in war orders occur and the manpower situation improves, the Commercial Cooking Equipment Industry Advisory Committee reported at its recent meeting.

No serious reconversion difficulties are anticipated by this industry since manufacturers have continued to make their normal products during the war period, the committee declared.

Production schedules under the expanded quotas in Order L-182 in general are being satisfactorily met despite occasional difficulties in obtaining malleable castings and despite the persistent manpower shortage, committee members reported. Production is still inadequate for some items, but the distribution controls maintained by the consumer-application procedure have assured the channeling of scarce equipment in accordance with need, the committee said.

In a discussion of the proper method of distribution under existing conditions, committee members unanimously opposed field processing of applications. WPB favors decentralizing the processing of applications for food service equipment now that production quotas have

been expanded and the in-plant feeding program is no longer a great problem, the committee was informed.

Field processing instructions outlining the criteria to be followed in granting or denying applications will be provided for the guidance of field analysts, it was explained. Applications for practically all other equipment are now processed in WPB field offices, officials pointed out to the committee.

Committee members opposed decentralization because they believe that it will result in substantial increase in the number of applications. Local personnel, they say, will be subject to pressures from which the Washington administrator of the order is exempt. Since manufacturers cannot accelerate production to meet an increased demand, consumer dissatisfaction will grow as backlog accumulates, committee members added. They also pointed out that the proposed change is completely unnecessary at this time since it is anticipated that the order itself will be revoked on or even before "Victory in Europe" Day.

Meek Manages Wesco New Orleans Office

NEW ORLEANS—William B. Meek has been named manager of a new branch office of the Westinghouse Electric Supply Co. in New Orleans.

The territory was formerly served by the Monroe Hardware Co., a Westinghouse agent-jobber, located at Monroe, La. and New Orleans. The new office has been established at 420 South Peters St.

Wilkins To Manage Addison Industries

TORONTO, Ont.—Addison Industries, Ltd., Toronto, which recently completed an agreement to manufacture Norge household appliances in Canada, has announced the appointment of E. B. Wilkins as vice president and general manager.

For the past two years, Mr. Wilkins was assistant to the president of Wartime Shipbuilding, Ltd., a Canadian government company, and previous to that he had been Canadian manager of General Motors' Frigidaire division.

Arthur Hirose Directs 'Newsweek' Promotion

NEW YORK CITY—Arthur P. Hirose, for the past 10 years director of promotion and market research for McCall Corp., has been appointed to a similar position with "Newsweek" magazine, announces Malcolm Muir, president and publisher.

Mr. Hirose is a member of the promotion advisory committee of the Magazine Advertising Bureau, a member of the marketing committee of C.E.D., and research coordinator of the War Advertising Council. He is also treasurer of the American Marketing Association, past president of the Market Research Council, a member of the National Association of Public Relations Counsel.

For a study of household appliances in 1941 Mr. Hirose won the Research Medal in the Annual Advertising Awards.

Heating & Air Conditioning Supply Co. Takes Crosley Line To Broaden Field For Dealers

RENO, Nev.—Heating & Air Conditioning Supply, Inc., has been named distributor of The Crosley Corp. in the northeastern part of California and most of Nevada.

The Heating & Air Conditioning Supply, Inc. has been in business for only four years, but has established a performance record which eventually led to the firm being awarded the Navy "E" and the Silver Star which was added to the "E" for continued outstanding performance in the heating field.

The business is managed by Clyde M. Mast who established the firm.

Mr. Mast spent several years in the appliance business in the middle west before moving to Nevada. Other members of the firm's management are L. J. Kearney, superintendent of refrigeration and air conditioning, and Les McCurry, sales manager, pioneer appliance and radio sales executive in Nevada.

The firm is located at 263 Sierra St., Reno. It also maintains a service shop at 555 E. 4th St., Reno, a branch office in Hawthorne, Nev., and a subsidiary company, Metals Mfg. Co., located at 336 Morris Ave., Reno.

Ogilby and Cohan Named To Manage Philco Distributors N. Y. Branch

NEW YORK CITY—Appointment of Fred D. Ogilby, Jr., as general manager of the New York branch of Philco Distributors, Inc., and of Joseph Cohan as general sales manager was announced today by Harold R. Sheer, vice president and general manager.

Philco Distributors, Inc., New York branch, handles the wholesale distribution of all Philco products throughout the metropolitan area and claims to be the largest wholesale radio distributing business in the country and one of the largest in the entire electrical appliance industry.

Mr. Ogilby and Mr. Cohan for the past six years have been in charge of the Philadelphia branch of Philco Distributors, Inc. Mr. Ogilby, who has been connected with the radio in-

dustry since 1923, joined Philco in 1931 as a salesman covering Suffolk County, L. I.

After spending a year as sales manager in Brooklyn and Northern New Jersey, he became general sales manager of the New York branch of Philco Distributors, Inc., in 1937, and from 1938 to date he has been general manager of Philco Distributors Inc., in Philadelphia.

Mr. Cohan also entered the radio business in 1923, and from that date until 1936 he was a distributor salesman for two of the leading distributors in the Philadelphia area. He joined Philco in March, 1936 as salesman for the Philadelphia branch. In December, 1938, he was promoted to general sales manager of the Philadelphia branch, which position he has held for the past six years.

Psychological Corp. Offers Picture of What Well-To-Do Will Purchase First

DETROIT—A comparatively high percentage of 10,000,000 American families (27,000,000 individuals) in the upper 50% of the income group will make appliances their first purchases after the war, according to a survey made for the Crowell-Collier Publishing Co. by the Psychological Corp.

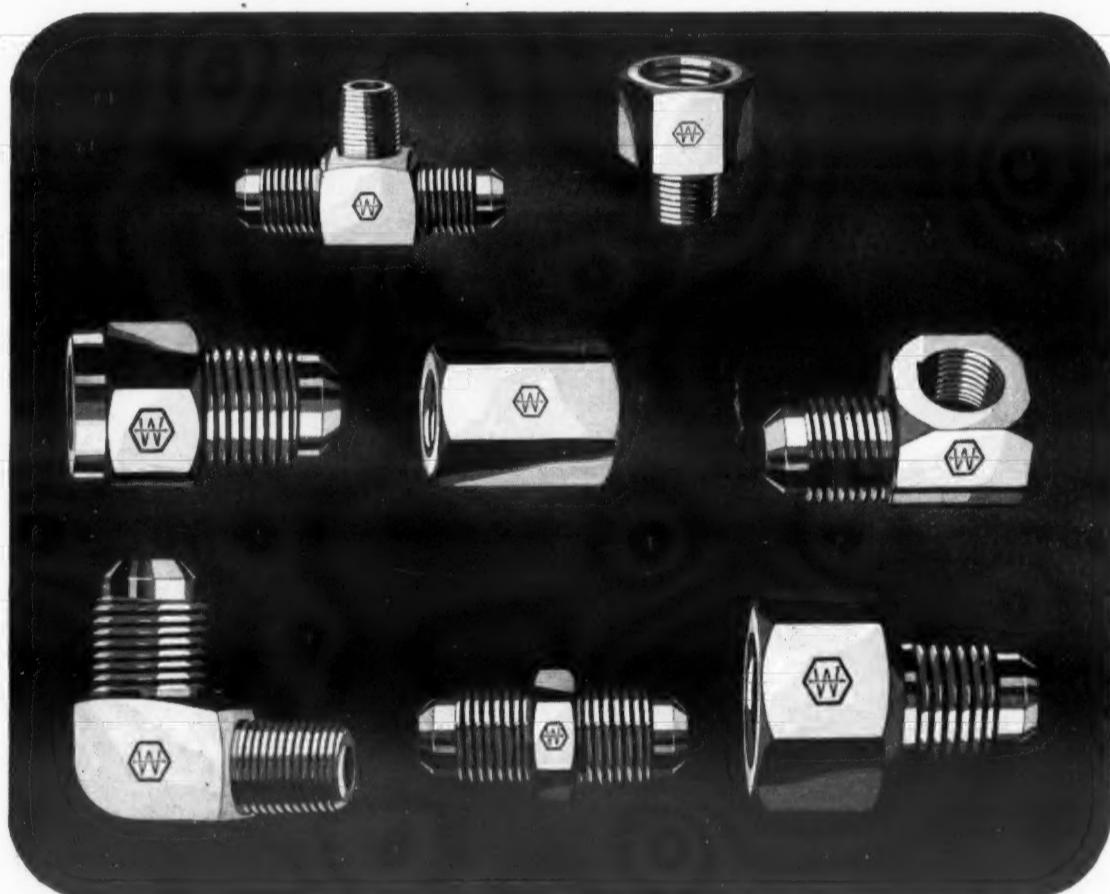
In 27% of the families, refrigerators are first in line, with washing machines first for 22%. Some 60% rank automobiles as the first need; furniture 40%; standard radio sets, 38%; television 34%; and a house 30%.

Of interest to the aviation in-

dustry is the survey's estimate that 10% plan to buy an airplane.

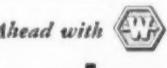
What people now think and say they want when the end of the war brings these goods into the market may change, however, points out William B. Stout, well known inventor. American people don't know what they want to buy until they see it, he contends.

Until some clever refrigerator designer gets through his part of the work, many a housewife will keep aching for a new radio set, but then seeing the wonderful new refrigerator, she might change her mind, it is pointed out.



Flare fittings for the refrigeration industry!

Flare-type fittings, because of their widespread use and standardization of design, are used extensively in all types of commercial and domestic refrigeration units. Weatherhead flare fittings are particularly easy to assemble since they feature sharp, clean threads and oversize wrench pads that make possible easy installation and use in tight corners. Like all Weatherhead fittings they come in a wide variety of types and sizes—brass, and steel.

Look Ahead with 
Weatherhead
 THE WEATHERHEAD COMPANY
 CLEVELAND, OHIO
Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries.
 Plants: Cleveland, Columbia City, Ind., Los Angeles
 Canada—St. Thomas, Ontario

Buy War Bonds

VIRGINIA Refrigerants



"EXTRA DRY ESOTOO", "V-METH-L" AND METHYLENE CHLORIDE
 AGENTS FOR KINETIC'S "FREON-12"—AND "FREON-22"

VIRGINIA SMELTING CO.

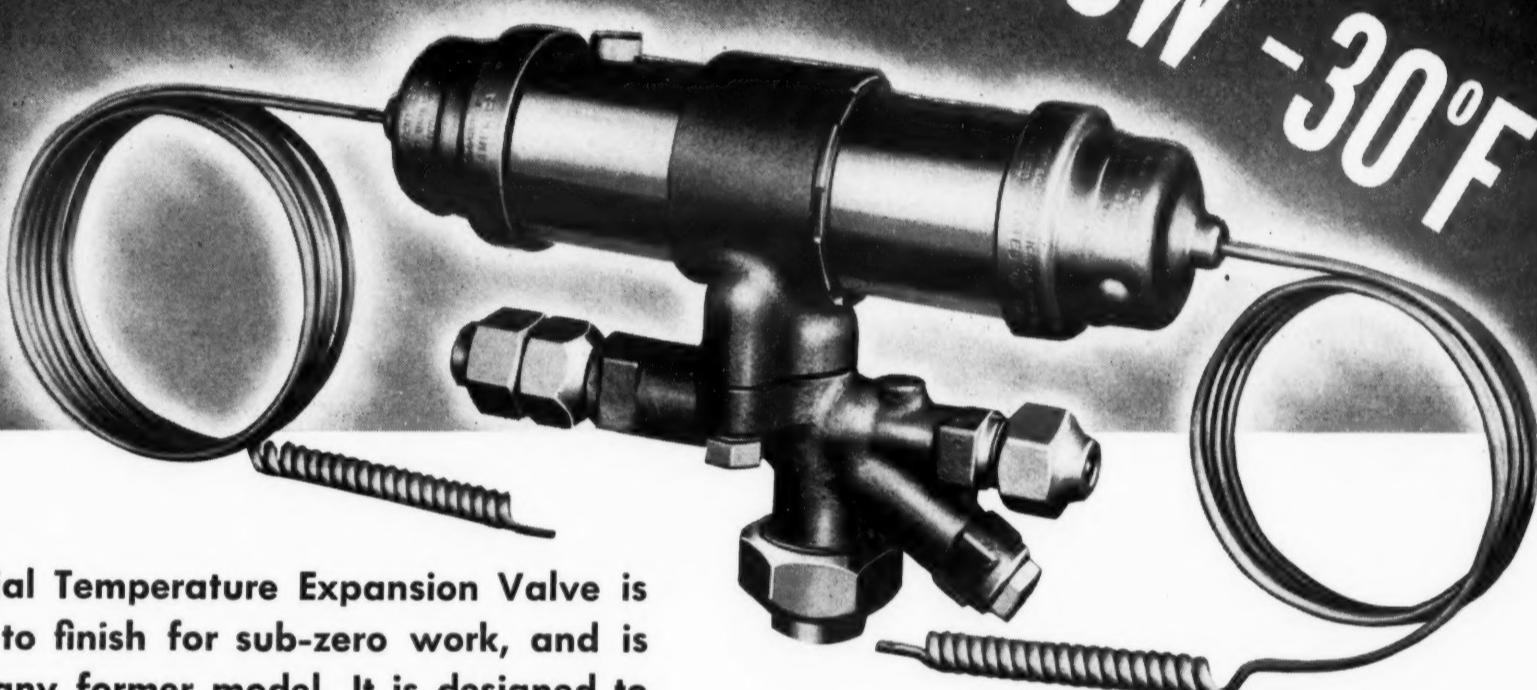
WEST NORFOLK, VIRGINIA

72 Beaver St., New York 5

131 State St., Boston 4

THIS VALVE OPERATES

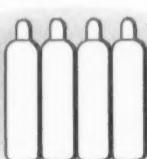
ONLY BELOW -30°F



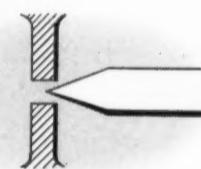
The No. 793 Differential Temperature Expansion Valve is engineered from start to finish for sub-zero work, and is not an adaptation of any former model. It is designed to work only on sub-zero temperatures from -30° to -150° and below.



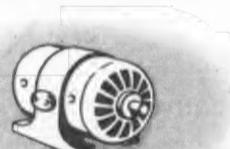
• Operated by temperature only, it is not affected by the pressure in the system.



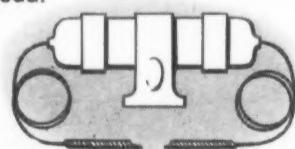
• One valve to work with any low pressure refrigerant not corrosive to brass. No need to order valves with special charging.



• Orifice sized to the operating load. No oversize orifice to cause flooding and surging during pull down periods.



• Valve remains closed above -30°; making possible the selection of a motor more nearly rated to the job, and preventing motor overload.



• Hermetically sealed power element is not affected by altitude or barometric changes.



DETROIT LUBRICATOR COMPANY



General Offices: DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Canadian Representative—RAILWAY AND ENGINEERING SPECIALITIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"DL" Heating and Refrigeration Controls • Engine Safety Controls • Safety Float Valves and Oil Burner Accessories • Radiator Valves and Balancing Fittings • Arco-Detroit Air and Vent Valves • "Detroit" Expansion Valves and Refrigeration Accessories • Air Filters • Stationary and Locomotive Lubricators.

OPA Plans Meetings With Big Industries To Discuss Reconversion Price Ceilings

(Concluded from Page 1, Column 5)

"At these meetings we will discuss the volume each industry plans to achieve; what they are going to pay for labor and materials; the savings they expect to make through increased plant efficiency, and lower sales costs. We will also be guided by prices which they feel, on the basis of their own experience, are most likely to assure the wide-scale consumer buying necessary to maintain volume production."

"In those cases where an increase over the 1942 price level is really needed to bring any product back on the market, an increase will be given. We will make every effort to set ceilings at a point that will lead manufacturers to expand, not restrict, their production."

Mr. Bowles did say that there are some companies, however, and perhaps a few industries whose costs have risen so far above their 1942 level as to make full absorption impossible.

"These companies will need new prices quickly, and we intend to see that they get them," declared Mr. Bowles.

Ceiling prices on goods made by some 25,000 smaller companies would be set by the 93 regional OPA offices rather than in Washington. The pattern that the regional offices will follow in setting price ceilings on the goods made by the smaller plants is now in the process of being drawn

up in OPA headquarters, it is declared.

Mr. Bowles did not say what form the pattern would take, but did say that OPA was considering exempting from price control certain manufacturers in the consumer durable goods field.

"This," he said, "might be done in two ways:

"First, by exempting all manufacturers doing less than a certain volume of business—say \$100,000; second, by exempting manufacturers of minor parts or miscellaneous products."

Harold Bergman Returns To Apollo Distributing As Sales Manager

NEWARK, N. J.—Harold M. Bergman, sales manager since 1932 for the Apollo Distributing Co. of Newark, distributor for The Crosley Corp., has resumed his former duties with the Apollo firm following a leave of absence since shortly after Pearl Harbor to enlist in the U. S. Army Signal Corps.

After visiting the firms represented by the Apollo Distributing Co., Mr. Bergman plans to visit the company's many dealers throughout northern New Jersey and Orange and Rockland Counties in the state of New York.

Postwar Delivery Orders Acceptable Now, WPB Rules

(Concluded from Page 1, Column 3)

ucts unless the purchase orders bear specified preference ratings, or unless they are accompanied by an allotment symbol or special authorization, or unless they meet some other condition. Such provisions do not, however, prohibit the placing or acceptance of a purchase order which by its express terms, is not to be filled until after removal of such restrictions by the War Production Board.

"A manufacturer may not, of course, schedule such orders for production, order material, or place material in production to fill such orders until after the applicable WPB restriction is removed.

"For example, Order L-111 forbids the acceptance of an order for new hand trucks unless the order bears a rating of AA-5 or higher. Nevertheless, an unrated order for hand trucks may be accepted subject to the condition that no steps will be taken to fill it until the restriction on acceptance of unrated orders is removed.

"Priorities Regulation 24 provides that unrated orders for certain types of equipment can be placed only after specific permission of WPB. However, an unrated order for such equipment conditional on the revocation or relaxation of this restriction may be placed without specific permission."

They Train Philadelphia Repairmen



Since the Electrical Association of Philadelphia first started its refrigeration repairman training courses in 1943 several classes have been graduated. Instructors and school officials include (back row, left to right): Bernard E. A. Quinn, G. R. Parker, Thomas Comer, Robert Gillstrom, Ralph Lambert, George Kaufmann, Forrest Corey; (front row: Geo. P. Ward, John J. L. Gross, J. Norman Baker, M. L. Mulch, A. R. Jonesak, and William Jackson.

Lower Prices, Better Distribution, Home Freezers to Boom Sales of Frozen Foods

(Concluded from Page 1, Column 4)

These are expected to appeal to city apartment dwellers who could then store food bought in large quantities at wholesale prices. . . .

Relatively small investment required to set up a commercial food freezing plant will probably bring numerous small firms into the picture, according to the report. A moderate sized processing and freezing plant with warehouse facilities probably could be had for \$75,000, while if a small concern wants to use public freezing and warehouse facilities, it could start business with perhaps as little as \$30,000, states the *Wall Street Journal*.

This won't be a problem after the war. The big electrical appliance concerns are planning special frozen foods compartments as regular unit in standard refrigerator models, and most companies intend to make separate home freezer cabinets which will permit the storage of large quantities of frosted foods indefinitely.

Pre-cooked frozen foods will probably be confined to dishes requiring such a number of ingredients that housewives find them troublesome to serve, it is predicted. Experts warn against expecting pre-cooked roasts or chickens, since thawing them out and reheating would perhaps take almost as much time as complete home preparation.

There'll be plenty of competition between food processors after the war, according to the *Wall Street Journal*. In addition to the large numbers of smaller processors who will likely enter the field, big canners and meat packers are also making plans. Among the former are H. J. Heinz & Co., California Packing Corp., Libbey, McNeill & Libby, and Campbell Soup Co.

Swift & Co. entered the field 15 years ago with the plan of freezing cuts of meat in its own plants on a mass production basis, but apparently the project was premature, for it was dropped with the exception of chickens.

Meat packers now intend to revive this idea, but may face considerable opposition from the retail butchers' union, it is said. Butchers complain

that if the packers prepare and freeze the cut and trimmed meats, they, the butchers, "would be reduced to the status of clerks."

Relatively small investment required to set up a commercial food freezing plant will probably bring numerous small firms into the picture, according to the report. A moderate sized processing and freezing plant with warehouse facilities probably could be had for \$75,000, while if a small concern wants to use public freezing and warehouse facilities, it could start business with perhaps as little as \$30,000, states the *Wall Street Journal*.

Freezing methods employed include spraying or dipping the product in low temperature brine, by blowing a cold blast of air, or by pressing the product between low temperature refrigerated plates. The latter method is employed by Birds Eye-Snider, Inc., a General Foods subsidiary and the largest factor in the industry.

Biggest postwar increase in frozen food sales is expected in vegetables, it is reported. Food freezers estimate that if it weren't for wartime restrictions, sales for the year would be around the billion pound mark instead of the expected 250 million pounds. Poultry and fish are also considered exceptionally good post-war markets.

Pizor Resumes Sales Post With Norge

DETROIT—R. H. Pizor, who has been in the sales department of the Norge division of Borg-Warner Corp. since 1934, has been appointed key sales specialist and will return to the field immediately, having completed two years in an important war job in the company's Muskegon, Mich., plant, it was announced by M. G. O'Hara, vice president in charge of sales.



"Marie is a trifle touchy . . . for goodness' sake, stop raving about the Air Conditioning and compliment the dresses!"

MARIE needn't worry. Her customers will buy dresses, all right. Because in the store that has modern air conditioning shoppers linger longer . . . clerks give better service . . . merchandise looks fresher, cleaner . . . and even the cash register rings more often!

Modern G-E Air Conditioning—properly applied and installed—does more than just cool the air. It keeps both temperature and humidity at ideal levels. It provides plenty of clean, fresh, actively circulating air.

Today, General Electric Air Conditioning and Re-

frigeration Equipment is being drafted by Uncle Sam for service with the armed forces and in war industries. But after the war even better G-E equipment . . . compact, flexible, and economical . . . will be available to stores, restaurants, hotels, offices, and homes.

It's not too soon to plan your air conditioning installation. Plan now, and when it's time to write the order—specify General Electric Air Conditioning!

General Electric Company, Air Conditioning and Commercial Refrigeration Divisions, Section 47010 Bloomfield, New Jersey.

★ BUY... and hold... WAR BONDS ★

Air Conditioning by

GENERAL ELECTRIC

Hear the General Electric Radio Programs: The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 P.M., EWT, NBC... "THE WORLD TODAY" News, Every Weekday, 6:45 P.M., EWT, CBS

Yes Sir: Mr. Service man, you're right! ICE-X does prevent and cure moisture trouble + absolutely eliminates ICE at EXPANSION VALVE + CAPILLARY TUBE

EXCLUSIVE NATIONAL DISTRIBUTOR
THE HARRY ALTER CO. 1728 S. MICHIGAN AVE.
CHICAGO 16, ILLINOIS

JOBBERS: WRITE FOR SPECIAL PROPOSITION!

Rema Will Debate Proposal For Public Relations Program

(Concluded from Page 1)

be given over to a presentation and discussion of a Rema public relations program, with the probability that the membership will be asked to vote on the matter.

There will be only a morning session on Friday, and it will be devoted to talks by government agency representatives. C. M. Stuart, Deputy Chief, Special Equipment Branch, General Industrial Equipment Division, WPB, will speak, as will a representative of the WPB Motor Section.

Complete tentative program is as follows:

WEDNESDAY, NOV. 15, 1944

10:00 A.M.—Important Business Session (Ten Minute Presentations).

1. The Postwar Credit Situation, O. L. Rose, Dole Refrigerating Co.
2. R.S.E.S. Asks Cooperation, P. B. Reed, Perfex Corp.
3. Product Group Program Expands, H. F. Spoehr, Spoehr-Lange Co.

4. Jobbers Relations Now, G. E. Graff, Ranco, Inc.

5. Our Association Moves Forward, A. B. Schellenberg, President of Rema.

6. The Importance of Membership in Rema, E. M. Flannery, The Bush Mfg. Co.

7. Our Streamline Victory Show, C. H. Benson, The Imperial Brass Mfg. Co.

12:00 Noon—Discussion on Above Reports.

12:30 P.M.—Luncheon.

2:00 P.M. to 4:00 P.M.—Product Group Meetings.

Product Groups

1. Heat Transfer Equipment.
2. High Side Equipment.
3. Temperature Controls.
4. Flow Control Valves.
5. Valves, Fittings, and Tubing.
6. Water and Beverage Coolers.
7. Refrigerants, Lubricating Oils, and Chemicals.

THURSDAY, NOV. 16, 1944

Morning Session

10:00 A.M.—Markets—Now and Postwar (An Open Forum Period)

1. The Parts Replacement Market.
2. Capital Equipment Sales Plans.
3. What About Exports—A. A National Viewpoint, Franklin Johnston, Publisher, *American Exporter*.

B. Our Industry Viewpoint, P. A. Karl, Brunner Mfg. Co. Discussion.

Afternoon Session

2:00 P.M.—Public Relations.

1. The Need for a Rema Public Relations Program, G. R. Allen.



Keep your eye on present-day air conditioning and refrigeration equipment. Their importance to vital war production is building sales for alert men.

Naturally, a good supply of Gilmer Belts will have you ready to meet any belt emergency. Rugged, long-lived, and efficient, Gilmers are built to stand the gaff and do a topnotch job. Get in touch with a Gilmer jobber, and be ready for more business.

L.H. GILMER COMPANY
Tacony, Philadelphia 35, Pa.

Coast Firms Given WPB Suspension For Locker Plant Jobs

WASHINGTON, D. C.—Two west coast firms have been suspended by the War Production Board for alleged violations of Order L-41 involved in unauthorized construction of locker plants.

J. C. Meyers, general building contractor in Stockton, Calif., built a cold storage locker room in a retail meat store occupied by the Independent Meat Co. without WPB authorization, states the WPB suspension order. Cost of this construction was \$2,000, which exceeded the limit of \$200 established by L-41, according to WPB.

Charging a "grossly negligent violation" of Order L-41, WPB has invoked priority suspension on Mr. Meyers from Oct. 7 to Dec. 7, except for prior orders and government contracts.

Construction of a store and a

frozen food locker plant in Seattle, Wash., which WPB declares was in violation of L-41, brought a suspension for Frank C. Hart, president and owner of Tusko Tavern, Inc.

Estimated cost of construction was between \$3,700 and \$4,000, says WPB, considerably above the limit of \$1,000 then set by L-41. Claiming that the owner had full knowledge of the limiting features of the order, WPB has forbidden any further construction without specific authorization by WPB.

Hammond Is Graybar Southern Manager

ATLANTA, Ga.—A. D. Hammond will become southern district manager for Graybar, with headquarters in Atlanta, effective Nov. 1.

His jurisdiction will include the Graybar offices and warehouses at Birmingham, Ala.; Knoxville and Chattanooga, Tenn.; and Columbia, S. C.

He has formerly been Graybar's Atlanta merchandise manager, Birmingham manager, and Ohio valley district manager.

Cleveland Firm Takes Both Coolerator Lines

CLEVELAND—Cleveland Radioelectric, Inc., successor to Moock Electric Supply Co. here, has been appointed distributor for the Coolerator Co. throughout northeastern Ohio, including Cleveland, Akron, Canton, and Youngstown, announces C. C. Conrad, president of the distributorship.

The firm will handle Coolerator's two electric refrigerator models, two ice refrigerators, a home freezer, and a farm freezer, said Mr. Conrad. He reports that John H. Ganzer, vice president of Coolerator, has revealed that the electric household units will be equipped with a separate low-temperature compartment for storage of frozen foods, and several other features.

The short line of models will permit savings in tools, dies, and manufacturing costs, and thus permit Coolerator to price its lines low enough to compete with chain stores and mail order houses, according to Mr. Conrad.

Kerotest

The patented* Kerotest Diaphragm Packless Valve is but one of the many important contributions made by Kerotest to research and engineering towards more dependable, economical Air Conditioning and Refrigeration. Descriptive bulletins sent on request.

*U.S. Patents Nos. 1,890,505—2,061,028. Swiss Patent No. 181,883. Canada Patent No. 340,598. Listed standard by Underwriters Laboratories.

KEROTEST MANUFACTURING CO. *Valves • Fittings • Accessories* PITTSBURGH, PA.

WPB Clarifies Provision on Amount of Copper Wire Repairmen Can Furnish

WASHINGTON, D. C.—WPB has clarified the provision covering the amount of copper wire and cable that electricians, electrical contractors, and repairmen of domestic appliances, radios, and refrigerators are permitted to purchase under provisions of Controlled Materials Regulation 9-A.

Considerable misunderstanding has existed among repairmen and wholesalers about these provisions and has resulted in the sale of a great deal more copper wire and cable for repair purposes than was intended, WPB officials said.

Under no condition, officials emphasized, should any repairman buy or any wholesaler sell any copper wire or cable for electrical conduction under the provision of CMP Regulation 9-A, which permits repairmen covered by the regulation to purchase each quarter a total of 500 pounds of copper and copper base

alloy brass mill and foundry products. It is not intended that wire mill copper products, including wire and cable (bare, insulated, armored, and copper-clad steel) for electrical conduction be purchased under the 500 pound classification.

Only the following products may be purchased under that provision:

Brass Mill Products: Alloy sheet and strip—alloy plate, sheet, and strip (including strip equivalent of ammunition cups and discs); alloy rods, bars and wire including extruded shapes—alloy rods, bars and wire (including extruded shapes and ammunition slugs); alloy seamless tubing and pipe; brass mill copper products—plate, sheets, and strips; rods, bars, and wire including extruded shapes (not including wire bars and dingot bars, or rod and wire for electrical conduction); tube and pipe.

Foundry copper and copper-base

alloy products—Castings (before machining).

CMP Regulation 9-A does, however, permit certain repairmen to purchase \$150 worth of copper wire and cable each quarter or one-eighth of what the purchaser used in making repairs in 1941 (figured as accurately as possible in dollar value), whichever is more.

Only refrigeration, radio, and domestic appliance repairmen and electricians and electrical contractors are eligible, however, officials explained.

This wire or cable may be purchased and sold only for the uses specified in CMP Regulation 9-A, mainly maintenance and repair work. Additional wire is permitted, however, under conditions outlined in the regulation for connecting-up purposes and for reconditioning work.

Electrical contractors and repair-

men doing maintenance and repair work for businesses listed in Schedules I and II of CMP Regulation 5 and 5-A should find it advantageous to use their customer's MRO symbol to buy the copper wire and cable needed, rather than to buy it under the V-3 allotment symbol of CMP Regulation 9-A. Purchases under the latter regulation may then be used for civilian maintenance and repair work.

Booklet Offers Data On Air Conditioning

JERSEY CITY, N. J.—How to plan postwar air conditioning to control temperature and humidity, clean the air, and provide adequate ventilation and air circulation is discussed in a new 16-page illustrated booklet announced by Westinghouse Electric Elevator Co.

The booklet tells how air conditioning works, outlines the principal factors which must be considered to plan air conditioning for a specific application, and pictures and describes equipment including compressors, condensers, units, and coils.

170 on Waiting List For Training Course In Philadelphia

PHILADELPHIA—Despite several repetitions of both elementary and advanced refrigeration repair training courses here, there are still 173 men on the waiting list, reports the Electrical Association of Philadelphia.

First courses were started on Feb. 2, 1943, and at present the sixth elementary course and the fifth advanced course, which began in mid-September, have 147 and 86 trainees, respectively. There are now four elementary classes and three classes in advanced work, served by eight instructors, who aim to keep classes small enough to permit the highest degree of individual instruction.

Courses run 13 weeks and include 26 sessions of three hours each, each session including a lecture period of about one hour, the rest of the time being devoted to shop work on actual refrigeration equipment.

The subjects covered by the course, together with their sequence, were developed by a group of service managers, representing member companies of the Electrical Association, who also made available sufficient equipment to permit practical training. These service managers also selected the instructors.

Weatherhead Moves West Coast Office

CLEVELAND—Weatherhead Co. has announced the relocation of its West Coast sales office from 6039 Wilshire Blvd., Los Angeles, to 1736 Standard Ave., Glendale, where a branch Weatherhead plant is located. Otto Abrams, formerly sales engineer with the Cleveland division, has been transferred to Glendale to assist E. Van Vechten, West Coast sales manager, in the direction of the relocated and expanded sales branch.

Controldtemp Names Berken To Sales Post

NEW YORK CITY—Lyonel "Len" Berken has been named northeastern sales manager for Controldtemp Equipment Sales Co. at 55 W. 42nd St. here, distributor of air conditioning, refrigeration, heating, and ventilating equipment.

During the past 10 years Mr. Berken has covered this territory as a sales engineer and as instructor for several technical schools.

Military May Use Frozen 'Block' Milk

STATE COLLEGE, Pa.—A method for manufacturing frozen concentrated milk has been developed by researchers at Pennsylvania State College. Taste tests indicate that the product when "reconstituted" can hardly be distinguished from fresh milk. It can be defrosted and diluted by putting the frozen blocks directly into hot water.

By using an equal amount of water, a product resembling coffee or cereal cream is produced. Twice as much water is added when milk for beverage purposes is desired. The product is being investigated by the armed forces as a possible source of fluid milk on hospital ships.

by blowing it out with air. Repair leak according to the problem at hand.

To Test Repaired Leak. Fill repaired section with inert gas, such as CO₂ or nitrogen, under pressure. Use about 10% "Freon-12" as a "tracer" and test with Halide lamp as covered in detection. Don't use compressor to develop air pressure in line. For accurate testing, avoid lighting Halide torch in the room if filled with "Freon" vapor. Don't fill test lamp with fuel in a room containing "Freon." The fuel will absorb the gas and give inaccurate readings. Kinetic Chemicals, Inc., Tenth & Market Sts., Wilmington, Del.

NOTE: This method of leak detection applies only to the "Freon" refrigerants.



NO. 1

LEAK DETECTION and correction

General Search for Leaks. Leaks in refrigerating systems, particularly small ones, are often difficult to detect. Look for leaks at unions; at flanges where bolted together; at cylinder heads and valve plates; on either side of valves, fittings, gaskets and threaded connections. Time can often be saved by looking for an accumulation of lubricating oil which has leaked from the system.

Locating the Leak. Use a Halide lamp to detect and positively locate the leak. When testing, the "Freon-12" vapor escaping from the leak will cause the high temperature flame of the lamp to change to a bright green color. Use of the Halide lamp is the easiest and best method of detecting the most minute leaks.

To Isolate and Repair Leak. Close valves on both sides of leak, thus isolating it; relieve pressure in line by "cracking" or loosening the nearest connection, and remove gas from line to be repaired

★
BUY A WAR BOND EVERY MONTH



Supplemental Steel Allotment Is Made For 4th Quarter Civilian Goods Use

WASHINGTON, D. C.—A supplemental allotment of 58,428 tons of steel has been made available for the Office of Civilian Requirements to increase a number of civilian production programs in the fourth quarter, WPB announced Oct. 10. The allotment, made by the Requirements Committee, brings the total materials for the direct disposal of OCR to 278,203 tons.

The over-all allotment of 278,203 tons for the fourth quarter does not represent the total amount of steel used in civilian production. Many regular civilian production programs are conducted on behalf of OCR by the office of the operations vice chairman, which acts as a claimant in behalf of the various industry divisions, and by other claimant agencies.

In addition, 200,000 tons of steel has been made available for the "spot authorization" program under which preference will be given to manufacturers intending to produce items on OCR's list of essential products.

This amount of material for most items involved is insufficient to provide for more than minimum essential requirements in each product and is such that, even if the feasibility of manufacture is established, the products will not come into easy supply, WPB explained.

In all except a few cases, feasibility of manufacture must be fully established, which means that manpower and facilities must be found available without harming war production.

In a majority of the cases, changes in one or more of WPB's limiting controls must be made before manufacture can be allowed. These controls include limitation orders, approved Division Requirements Committee decisions and program determinations.

OCR has divided the allotment into three parts:

(1) 9,000 tons for direct allotment to restore cuts in regular fourth-quarter programs and including minor program increases. Programs in this category cover 28 products for which the use of this additional material requires no changes in limitation orders, in approved Division Requirements Committee decisions or program determinations. The allotments will bring production of each of these items up to the level of minimum essential requirements in the absence of rationing.

(2) 19,428 tons of carbon steel for minor increases in programs for the use of which changes will be required either in limitation orders, in Division Requirements Committee decisions, or in program determinations.

(3) 30,000 tons of carbon steel to be put in a special reserve for certain so-called major programs.

Products in the first group, for which 9,000 tons of steel has been allotted: Hardware cloth, metal plastering bases, metal-edged gypsum

plank, house trailers, commercial electrical appliances (other than cooking or heating), ice refrigerators, animal traps and cages, fountain pens, mechanical pencils, pen nibs, baby carriages, scullery sinks, shower stalls, low pressure boilers, commercial electric cooking equipment, gas heaters, laundry stoves, non-portable fuel-oil stoves, oak stoves, gas floor furnaces, low pressure heating specialties, heat generation and distribution controls, hot water storage tanks, and radio receiver vacuum tubes.

Products in the second group, for which 19,428 tons of carbon steel has been allotted: Bicycles, flashlight cases, box springs, hair pins, bob pins, office supplies, utility baskets, wash boilers, fire shovels, household table cutlery, household kitchen cutlery, professional kitchen cutlery, manicure implements, scissors and shears, hand hair clippers, black steel fryers, lunch boxes, carpet sweepers, insect spray guns, wire garment hangers, curtain rods, marking devices, musical instruments, church goods, pails and buckets,

plumbing fixtures and trimmings, gas hot plates, combination ranges, portable and drum ovens, fuel oil portable stoves, range boilers, safety razors, straight razors, razor blades, wood cased pencils, oil cans, coal hobs, funnels, staples, staplers, coal fired water heaters, heating pads, electric space heaters, and oil floor furnaces.

Products in the third group, for which 30,000 tons of carbon steel has been allotted: Innerspring mattresses, coil and flat springs, wash tubs, household enamel ware, miscellaneous kitchen tools, gas ranges and cook stoves, warm air distribution equipment, gas underfired water heaters, gutters, downspouts and other rain goods, coal and wood ranges and cooking stoves, oil ranges and cooking stoves, electric irons, and warm air furnaces.

Tennessee Valley Firm Sets Up Sales Division

NASHVILLE, Tenn.—Organization of an Economaster Sales Division to handle the marketing, sales promotion, and advertising of heaters and other electrical appliances, has been announced by Wheless Gambill, Jr., of Tennessee Valley Associated Marketers.

The move involves no change of ownership and management. Its primary purpose is to allow concentration on sales to wholesale distributors of both major and small appliances.

Economaster was one of the first in the Southeast to receive a release from the War Production Board to manufacture.

American Beauties
ALWAYS PREFERRED

MR. DISTRIBUTOR: Here at American it shall be our ideal to maintain that tradition. Past, Present, and Future all shall contribute to that end. The Past has given us much in experience. The Present is exciting with new models and ideas. The Future will be rosy for the alert Distributor who becomes affiliated with a progressive and forward looking concern. We are now offering territories to Distributors, and invite your inquiry.

The time is short—write us today for information.

WALK-IN COOLERS · BEVERAGE COOLERS · MILK COOLERS
LOW TEMPERATURE BOXES FOR DOMESTIC AND COMMERCIAL USE

AMERICAN REFRIGERATOR AND MACHINE, INC.

615 North 3rd St., Minneapolis 1, Minnesota, U. S. A.

BEARSE MANUFACTURING CO.
Incorporated 1921
115-3825 Cortland St., Chicago 47, Illinois

Investigate

SHERER

...decide Now on your Postwar source for
Refrigerator EQUIPMENT

WRITE
SHERER-GILLETT CO.
MARSHALL, MICHIGAN

WANTED

Enquiries from United States manufacturers interested in the
CANADIAN MARKET

Chatco maintains two modern factories in Canada for the production and assembly of stamped, rolled and machined metal products, for the refrigeration, air-conditioning and heating industry.

May we suggest that by having your product manufactured and assembled in Canada, you will be on a permanent, economic basis to compete in the Canadian market.

CHATCO STEEL PRODUCTS LIMITED

CHATCO CUSTOM METAL PARTS AND HEAT TRANSFER EQUIPMENT

GENERAL SALES OFFICES: 512 C.P.R. BUILDING TORONTO, CANADA
Manufacturing and assembling metal components for over half a century.

G-E Laundry Sales Chief**LLOYD HERTZLER.**

Recently appointed sales manager of G-E's home laundry equipment division.

Gethman & Muller To Open Dealership

DUNMORE, Pa. — Gethman & Muller has purchased a two-story building at 519 S. Blakely St. here in which a refrigeration sales and service outlet will be established about Jan. 1. Front of the building will permit a large display, with repair and service facilities in the rear. Second floor will be used for storage.

Automobile Dealers Tend To Shy Away From 'Priorities' To Postwar Buyers

NEW YORK CITY — Automobile dealers are reluctantly taking orders for postwar passenger cars under "priority for purchase" plans, according to a survey conducted by *The Wall Street Journal*.

(Since such plans have been rather widely put into effect in the refrigeration industry, the editors offer the following digest to show the progress of such plans in another branch of the consumers durable goods field.)

There has been a considerable demand from the public to be "put on the list," the survey showed. But dealers are asking themselves: How soon will these autos be available after the war? How much will they cost? What will used car turn-in value be? Will rationing be continued?

The majority of the dealers surveyed apparently are not putting customers on a "priority list." Their attitude is expressed by a Washington, D. C. dealer who declared:

"I wouldn't think of taking advance orders. It is too uncertain a business. We will have no trouble selling cars when they are made available. So why not wait until we know what is coming?"

On the other side of the picture a large Los Angeles distributor is now having purchase application blanks printed. He intends to establish a numerical priority list and to require cash deposits from would-be purchasers. If an applicant refuses the model car that may be available when his number comes up he may transfer his payment to a "truly postwar model" to be delivered later. Or he may cancel his order by forfeiting his down payment.

Dealer trade associations for the most part have been dead set against these "priority for purchase" plans and it is said that the sales departments of the big automobile manufacturing companies frown upon the practice, although none apparently has come out against it officially.

Most dealers who are accepting orders now seem to be doing so in a quiet and cautious way, taking no down payments and making no detailed promises.

One of the most definite programs along this line is carried out by a Willys dealer in Cleveland, who makes agreements on a basis of current prices and present trade-in values and asks a \$1.00 deposit.

Priorities Corp. Calls Attention To an Incorrect Statement on Customer Refund

Priorities Corp. of America
18 North Eighth St.
Richmond, Va.

Editor:

The article on page 13 of the Sept. 11 issue of AIR CONDITIONING & REFRIGERATION NEWS concerning this company contained statements of fact which are misleading and may cause us difficulty with manufacturers and other contacts.

In the first place the firm is not limited to making sales of \$25,000. The initial license was for sales in that amount being based on our application fee of \$25, which was one-tenth of 1% of expected sales. We are at liberty to obtain an additional license or licenses to an unlimited amount, the only limitation being the amount of bond which we will be required to place with the State Corporation Commission.

The more damaging misstatement is that with reference to purchasers under our sequence of delivery contract being entitled to a full refund of all money paid in, in the event the purchaser permits a contract to lapse. This is not correct. The following paragraph in your article states the correct facts.

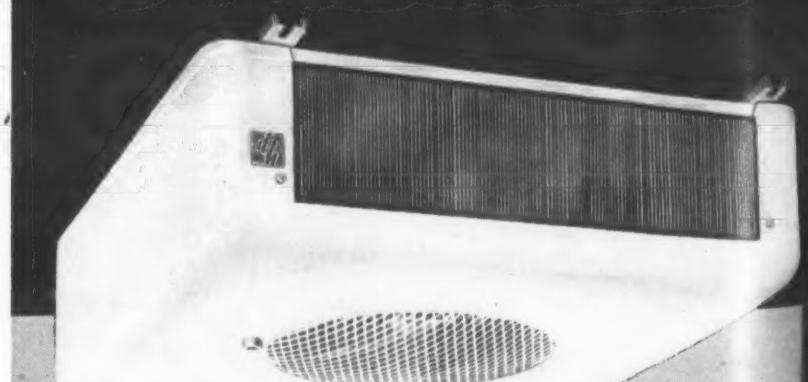
Should a customer allow a contract to lapse, the customer might call on the company for some refund, but the amount of the refund would be dependent upon what damage had been suffered by the company. The usual rules of law would prevail. The customer would be charged with salesmen's commissions, our expected profit, and overhead items.

The liquidated damages provision was part of the contract originally submitted to the Corporation Commission.

The Commission decided to leave the question of damages to the courts rather than to incorporate stipulated damages in the contract. Of course, this is not as satisfactory an arrangement, but the ruling of the Commission naturally prevailed.

We trust you will make this correction in an early issue as we are now engaged in contacting manufacturers and distributors for franchised statements which might reflect on our credit and scope of operations such as the above could do considerable harm.

ISRAEL STEINGOLD,
Vice President

BEAUTIFUL SPASAYER

...brings you greater PRIDE and PROFIT

Finished in white deluxe enamel and streamlined for beauty, Spasaver is efficient, dependable and economical, too.

This modern horizontal cooler for cold rooms and refrigerators is manufactured in 10 sizes. All operate with minimum noise and require practically no servicing. It means more pride and satisfaction in service, more profit from any angle.

Write today for complete informational catalog.



THE FIRST AND ONLY FACTORY OF ITS KIND IN THE WEST WITH COMPLETE FACILITIES FOR ENGINEERING, DESIGNING, MANUFACTURING HEAT EXCHANGE EQUIPMENT

drayer-hanson
Since 1910 738 E. Pico St., Los Angeles 21, California

HONEYWELL POLARTRON CONTROL SYSTEM

Gives You

FROST-FREE REFRIGERATION

- ACCURATE TEMPERATURE CONTROL
- MORE UNIFORM HUMIDITY
- GREATER OPERATING ECONOMY

Arrange, without obligation, to have a Honeywell engineer explain the exact benefits the Polartron Control System can bring you. Just write Minneapolis-Honeywell Regulator Company, 2807 Fourth Ave. S., Minneapolis 8, Minn. Branches and distributing offices in all principal cities.

THE POLARTRON SYSTEM OF FROST-FREE REFRIGERATION

MINNEAPOLIS
Honeywell

REFRIGERATION
CONTROL
SYSTEMS

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Detroit Appliance Men Face Rosy 5 Years After Reconversion Slump, Says C.E.D.

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warned Mr. Leininger. "This means that you appliance and radio men will likely have merchandise to sell before the Detroit factories are in full swing. There may be as many as 400,000 persons unemployed in the Detroit area during reconversion, and these persons, even though they will have comparatively large savings accounts, will not feel safe in buying new products until they return to work. It is during this period that dealers must prepare to sell your goods, however, so you should line up a trained selling organization."

EMPLOYMENT HAS DOUBLED

Present employment in the Detroit area runs to some 800,000 persons, about twice as many as were employed in prewar days, said Mr. Leininger. After the war, the automobile industry here may need as many as 350,000 workers, while other Detroit area plants could employ possibly 175,000.

If, as is expected, some 140,000 war workers leave Detroit after the war ends, there need be little unemployment here, provided, of course, that the nation operates at its maximum economy," declared Mr. Leininger.

"Another factor of great importance to you in the appliance and radio fields is the large number, perhaps 200,000, war veterans who will return to Detroit after the war. Recent studies show that 70% of the returning veterans do not want to go back to their prewar jobs. In fact, many of them want to become appliance dealers or salesmen or operate a service establishment.

VETERANS ARE INTERESTED

The prospect of borrowing \$2,000 to set themselves up in building is very enticing to these men, but unfortunately most of them do not realize that the money will not be given directly by the government, but must be borrowed from a banker—and you know bankers. This means that these veterans will have to convince the banker with strong, realistic arguments."

There is a possibility that industrial conditions in Detroit may not be too good after the war, pointed out Mr. Leininger, and this will naturally react unfavorably for the appliance and service trades.

INDUSTRIAL CONFLICTS LOOM

Present-day industrial conflicts between management and unions here may be greatly increased in the postwar period, with unions striving for higher pay and industry seeking to cut costs to achieve big volume sales and increased production, he declared.

If this problem is satisfactorily

NOW! COOLERS FOR WAR PLANTS



Now they can be sold! Day and Night glass filler coolers; for industrial cafeterias; bubbler coolers for war plants.

WRITE FOR LATEST DATA

**COOLER DIVISION
DAY & NIGHT MFG. CO.**
MONROVIA, CALIFORNIA
FACTORY REPRESENTATIVES
NEW YORK • CHICAGO • ATLANTA, GA.
BIRMINGHAM, ALA. • ST. LOUIS, MO. • NEW ORLEANS, LA. • JACKSONVILLE, FLA. • BIRMINGHAM, ALA. • NEW ORLEANS, LA. • JACKSONVILLE, FLA.

THIS COUPON WILL BRING YOU COMPLETE INFORMATION—

**WEBER SHOWCASE &
FIXTURE CO., Inc.**
5700 Avlon Blvd., Los Angeles, Calif.

representative of business management serving voluntarily without remuneration, explained Mr. Fielder. There are some paid executives, Mr. Fielder being the only one in Michigan.

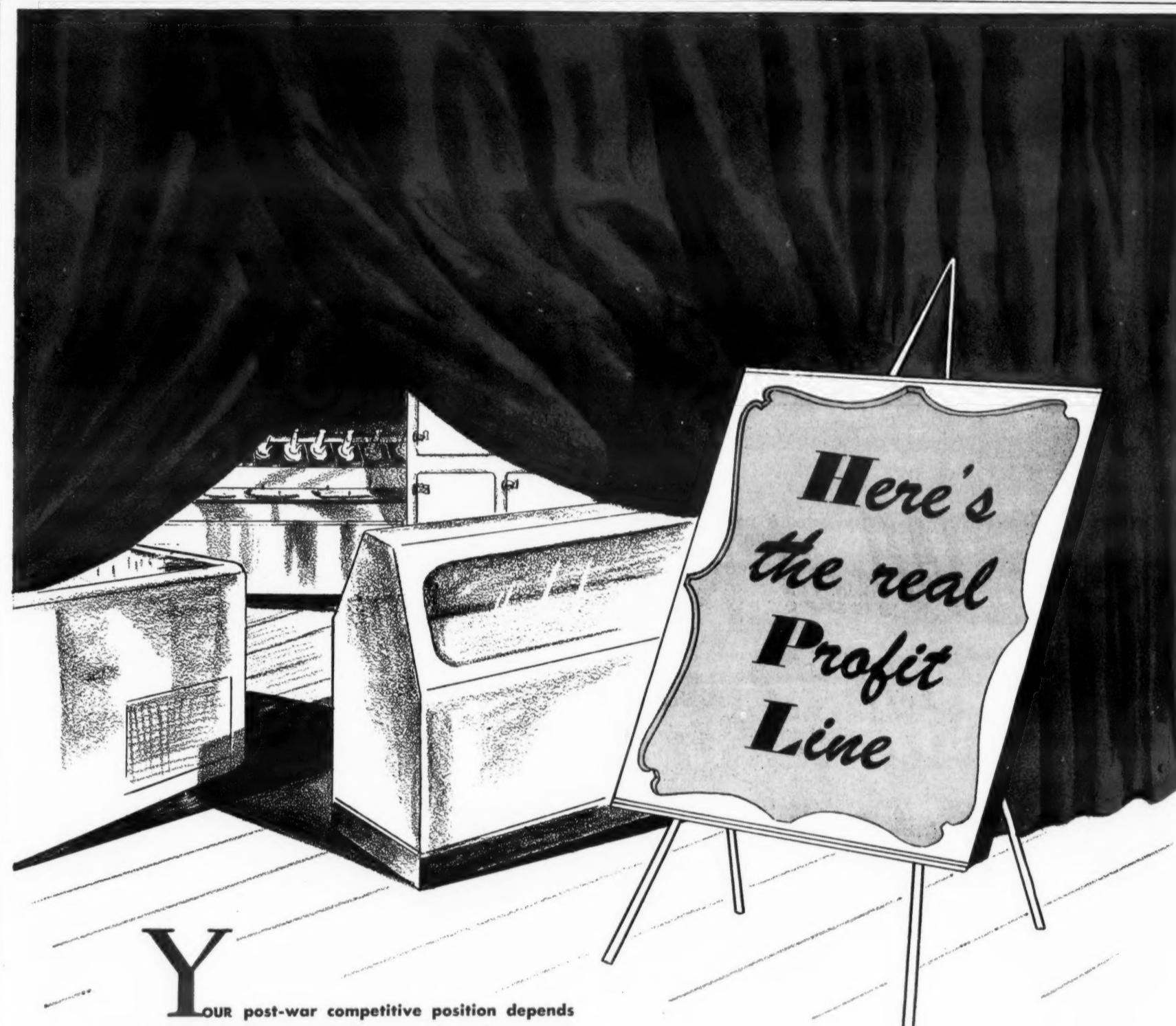
The Detroit district is divided into 26 different industrial segments, and at present the C.E.D. is seeking chairmen for each of these segments for the immediate purpose of surveying the postwar employment possibilities, Mr. Fielder revealed.

Major aim of the C.E.D. is to "resell the American system to the American people," declared Mr. Fielder. And one of the most important objectives in this respect is easing the tax burden on small and large business firms, he said. This must be done to give business the incentive to expand and to keep "risk" capital in circulation to invest in business expansion, he added.

Johnson Named Midwest Manager For Admiral

CHICAGO—Wallace C. Johnson has been appointed midwest regional manager of Admiral Corp.

Mr. Johnson resigned recently as sales manager of the Radio division of Vendo Co. of Kansas City. Previous to this, he was assistant district manager covering twenty-one states for the Army-Navy Electronics Production Agency. Before joining the Government agency, he was sales and general manager for the F. C. Hayer Co. of Minneapolis, distributor of radios and appliances. From 1930 to 1941, Mr. Johnson was national commercial manager of radio-phonograph combinations selling under \$100 for the RCA Mfg. Co.



YOUR post-war competitive position depends upon the merchandise you distribute... its salability and profit possibilities. Many new revolutionary features make the Weber line of store equipment the sensation of the industry. Weber's better-designed, better-engineered and better-built refrigeration equipment includes:

- COMMERCIAL REFRIGERATOR DISPLAY CASES • REACH-IN CABINETS • WALK-IN COOLERS • SODA FOUNTAINS • ROLL-A-DOOR FROSTED FOOD AND ICE CREAM CABINETS • HOUSEHOLD FROSTED FOOD CABINETS.

**PLAN NOW TO SELL
THE WEBER LINE—
INSTEAD OF AGAINST IT.**

Investigate THE WEBER LINE before you make any Post-War sales plan. Exceptional profit possibility awaits those concerns who can qualify.

WEBER first in the industry  To fly Army and Navy "E" Flag  To build world's largest knock-down, self-contained refrigerators  To make portable walk-in refrigerators

EST. 1898 

WEBER SHOWCASE & FIXTURE COMPANY
P.O. Box 2018, Terminal Annex
Los Angeles 54, California
Dept. "C"

Gentlemen:
Kindly send me complete data on the Weber Franchise
for the _____
Name _____
Company _____
Position _____
Address _____

Inside Dope

By George F. Taubeneck

(Continued from Page 1, Column 1) tage of present tax levies, and agitating for incentive tax legislation.

As for present tax laws, there is one favorable-to-enterprise situation now on the books with which most business men seem to be regrettably unfamiliar. This is the generally overlooked "carry-back and carry-over" provision of the excess-profits tax. It's well worth our study.

Building a business is usually the work of two or more generations. Yet the tax laws, heretofore, have been set up on a strictly annual basis. This carry-back, carry-over provision is quite new in our tax structure. It is belated recognition of the necessity for considering several accounting periods for the just determination of eventual tax liability.

Under the excess-profits tax law, earnings beyond "normal" (base period) income are now almost totally recaptured by the tax collector unless in subsequent years the corporation earns a smaller sum than registered during its base profits period. This provision means, simply, that the costs of reconversion, and/or re-promoting the market for civilian goods, can be charged back against excess war profits for tax purposes, if the corporation's resulting net profits then come back (over the several-years' time) within the limits of the prewar base period.

So difficult is it to translate the

language of the government-fostered "lawyers' union" into recognizable terms of human communication, it's probably best that we start all over on this proposition. Let's put it another way.

If you want to invest heavily in re-equipment, market studies, and sales promotion to gain or regain a healthy position in tomorrow's competition for peacetime business, you can spend so much as to incur what might normally be a loss, and a heavy loss, without subsequent large disbursement of funds.

It works this way: the net business loss of a given year may be carried back against profits of the two preceding years (also, forward against the profits of two subsequent years).

Inasmuch as most manufacturing corporations—and a great many surviving distribution organizations—have earned extravagant taxable excess profits during 1943 and 1944, this provision means that they can incur losses during 1945 and 1946 by spending heavily for product research and sales promotion, yet recapture those losses from the excess profits taxes they rang up during 1943 and 1944.

Put briefly, they can earn for tax purposes, during those four years, just what they earned during the base period—meanwhile making enormous investments in their future.

This remarkable situation will surely not be overlooked by the

smaller, more ambitious corporations "on the make" for a greater place in America's industrial sun.

Where contract cancellations involve unavoidable losses, or where a final disappearance of consumers durable goods to be sold at retail forces a dealer to close his doors for a time, this tax situation should be a life-saver or a life-giver.

Even though the corporation cannot possibly spend its way toward a loss in the after-war period—as will probably be the likelihood for most corporations in this highly favored industry—it can still invest wisely its five-cent dollars in promotion for future business.

Actually, the present excess profits tax law constitutes the greatest bargain sale in history for forward-looking concerns.

No right-thinking executive will throw into the gutter a nickel just because a burglar comes along and takes 95 cents of the dollar-in-charge the executive has in his pocket—leaving the executive the customary five-cent piece for carfare.

Rapid Turnover Helps

Nevertheless, the prescient executive who finds his corporation's balance sheet showing an excursion into the excess profits realm will devote a substantial portion of his time toward intelligent spending; or, rather, toward wise investment of present, taxable business expenses for future returns.

There are those simple-minded folk who will argue that such intelligent spending of excess profits is unpatriotic, in that it "robs" the government of tax money. But those who understand our economy better know that the stimulation of cur-

rency circulation and credit revolvement provided by this intelligent spending will eventually return to the government far more tax monies than it would obtain should all corporation executives follow a more parsimonious policy.

Rapid turnover eventuates in increased taxes, just as it spells increased profits. And, by enlarging corporate spending among concerns which are all subject to these excess profits taxes, the government benefits hugely in the long run—just as the five-cents-on-the-dollar "risk takers" seem bound to profit by almost any promotional projects they can find to undertake. Put succinctly, the more you spend, the more our government will profit, both currently and in years to come—and never in our lifetime will we be able to spend so handsomely with so little risk. In gambler's language, it's "five will get you a hundred"—attractive odds!

Old, tired governmental administrators, capitalists, and business managers will also be confounded with the political power of ambitious American youth when it comes to determining America's tax program for the next two decades.

Our nonpareil United States have always been the Land of Opportunity; and, because young men who have sacrificed untoldly in the foxholes and the battle vessels of war will hold the political whip-hand in the immediate years to come, the United States is likely to continue being a progressive melting pot of economic classes, as well as an amalgamator of racial groups.

This statement means, in the rough, that voters in the United States during the next 20 years may insist upon equality of opportunity from scratch. They'll kick like steers when they discover a tax situation which freezes the wealth.

Despite the misapprehension on the part of all too many labor union members that Roosevelt has advanced the position of the man with no bank account as against the man with a big bank account, the plain fact is that Roosevelt's so-called "sharing the wealth" (a term borrowed, tongue-in-cheek, from Huey Long) has truly resulted in an impasse quite the opposite: it has achieved stratification of the wealth, or cementing of economic classes. This is totally foreign to the American conception of opportunity, freedom, and equality.

Under the tax laws sponsored and driven through Congress by Franklin

Delano Roosevelt, things have come to what my grandfather would have called a "pretty pass." They have come to this: the rich stay rich, and the poor can't earn or save enough to become even moderately well-to-do under pre-Roosevelt standards. But corporations stay big; smaller corporations can't become much bigger. Large investors retain their funds; small wage-earners can't save enough to become investors.

And men of talent and ambition no longer feel like "giving their all" when the tax collector comes along and grabs most of the extra money they've earned by their work.

Is this the America of Washington, Jefferson, Jackson, Lincoln, and Cleveland? Yes, and Horatio Alger? Is this the New World? On the contrary, this is the Old World, the world of Privilege and Prestige, of Landed Gentry, as contrasted with the America of Opportunity and Independence we were brought up to expect.

But will the so-called New Deal remain in power all our lives, with its well-directed trends toward making America another Europe, a Land of Permanent Classes? We don't think so.

Keep America 'American'

We believe that the 12,000,000 American servicemen and women will form so strong a political bloc favoring the resurgence of opportunity that this nation's tax laws will necessarily veer away from the European social and wealth stratification introduced by the hypocritical Roosevelt (a deviously clever demagogue who is himself supported by inherited, unearned wealth, and who maintains power through cynical forced wage increases which are more than nullified by government-spending-encouraged inflation). We believe this potent voting force will work toward renewed opportunity for personal gain through merit, talent, and hard work.

Some of these old-beyond-their-years young men are already back at work. And they are sure to be leaders in proposing changes in our present calcified federal tax structure.

Among the changes which America's young men are likely to demand—and seem sure to achieve—is the elimination of the present double tax on corporate dividends. No other nation on earth preserves this tax.



What Radio will Post-War America Buy?

The statements in this advertisement are based on a survey made by the publishers of leading monthly and weekly magazines (name on request).

Looking to the day when the manufacture and sale of civilian merchandise will be resumed, a number of publications and fact-finding organizations have undertaken to find out what the public intends to buy. One such survey was recently made and published by a leading national magazine. It showed the following results:

65% of its readers intend to buy a new radio or phonograph after the war . . .

More than twice as many intend to buy a Philco as any other brand . . .

There will be as many Philco buyers as the next three makes combined . . .

Yes, overwhelmingly... America's post-war radio will be a Philco!

These are potent facts for every radio dealer today. Big opportunities lie ahead in the radio field. And the biggest profits await those who prepare themselves to sell what the public wants to buy.

Philco engineering earned radio leadership. Philco engineering... yes, and Philco merchandising, advertising and promotion . . . will be prepared to continue that leadership with new advances when Victory is won!



WHAT IS THE "RECALIBRATOR"?

It's the first completely satisfactory and convenient way to correct a gauge that has been knocked out of adjustment. (Any gauge can be.)

ISN'T IT JUST ANOTHER "ADJUSTMENT"?

No sir. The "Recalibrator" doesn't merely attempt to compensate for the error. It re-establishes proper relation between bourdon tube and movement—actually recalibrates the gauge throughout its range.

DOES IT MAKE THE GAUGE COMPLETELY ACCURATE AGAIN?

Right—at all points on the scale.

IS THIS CORRECTION EASY TO MAKE?

Simply turn that screw on the dial until the pointer is at zero when not under pressure. Almost quicker than you can say the word "Recalibrator", the job is done.

WHAT GAUGES OFFER THE "RECALIBRATOR"?

The "Recalibrator" is available in all Marsh Gauges; standard in all Marsh Dial Thermometers. It's the mark of an instrument that has behind it more than 75 years of gauge-making experience.

JAS. P. MARSH CORP., 2067 Southport Avenue, Chicago 14, Illinois

MARSH Refrigeration Instruments



Overwhelmingly, it's a **PHILCO**

Inside Dope

By George F. Taubeneck

(Concluded from Page 10, Column 5)

tion anomoly. It's strictly a result of inexpert, second-rate, uninspired thinking, and does nobody any good—the federal government which is the recipient of the taxes, the low-paid multitudes who supposedly gain most from tax-impelled "redistribution of the wealth," or the employing corporations which pay these taxes.

Even the tax-happy New Deal economists and thunderjung unregenerates now openly espouse a change in our tax laws to provide for relief in the matter of dividend confiscation through double taxation. Thus every prime mover of a new enterprise, or resuscitator of an old one, can probably expect release from this certainly discouraging deterrent to risk-taking.

The way it works now, the corporation is taxed (normally) 40% on its earnings. Of what's left, a portion is dividded out to investors, who in turn pay another tax (graduating steeply) on the dividend they get.

Those smart British tax only the dividend-receiver. They let the corporation, which provides jobs, almost alone by exempting dividends from corporate taxation. In this country, it's now far more practical to engage investment money through the sale of bonds—because interest paid is tax-exempt expense—than it is to

enlarge corporate ownership through the sale of stock.

Again, this tends to make the rich coupon-clippers richer, while denying investment opportunity to the ambitious younger generation.

Moreover, the current system of placing a premium on borrowing from bond-lenders rather than through stock-investors is unsound because it does not encourage either risk-taking or employment. Interest on bonds is a fixed charge. If profits drop, payrolls must be slashed to meet those fixed charges. On the other hand, if the borrowed money came from stockholders, dividends can be interrupted in a time of losses and bankruptcy proceedings need not be invoked. Thus the corporation can attempt recovery without sacrificing its human assets, and without, in the bargain, adding to the deflationary unemployment cycle.

Stockholders absorb risks; but under today's New Deal tax laws they cannot share equitably in gains. So, only the rich and conservative can afford to invest—and they, no fools, measure risk with a cold and fishy eye.

New business has a tough time borrowing bond money; it must depend on risk capital. Old and big business, on the other hand, either has ample credit resources or sufficient liquid capital and investment

money for all the expansion funds it usually may ever need.

For new business and expanding small business to grow and thrive, the investor must be given opportunity for dividends commensurate with the prospect of loss assumed. If he loses his shirt—well, that was his mistake; but if his judgment was right, the government should not siphon away most of what he'd ordinarily make.

Object to Nincompoops

The political assuredness of this type of thinking is pointed up sensational by the conspicuous extravagance of the tinplate, five-and-dime, asbestos, and oil heirs. Americans aren't prone to resent wealth earned; but they do resent wealth inherited by nincompoops. Even more to the point, returned war veterans will resent wealth earned during a time of relative tax immunity, as compared to the difficulty of their own wealth acquisition during a period of extreme tax vulnerability.

If a returned Guadalcanal veteran notes that he can keep only \$7,500 out of \$10,000 earned—as compared with \$9,900 retained out of \$10,000 earned by his luckier earlier-generation father or father-in-law—he's going to do a bit of political agitating, huge national debt or no national debt.

And, inasmuch as unproductive tax expenditures remove from the spending arena great sums of money which ordinarily would go into hydramultiple circulation, the justice-seeking war veterans may unconsciously be on sound economic ground. By insisting upon lower taxes on earned incomes, they may force the national aggregate income to a higher level.

Back to the proposed elimination of double taxation on dividends: if legislation to effect this desirable change is enacted, as it almost surely will be, the corporation tax will then become a tax chiefly on undistributed profits.

In the train of this change, investment in stocks will become far more attractive for income purposes than for gambling on capital gains, and investments in stocks will tend to favor new, "on-the-make" outfits. Business earnings should then circulate with cumulative velocity, to the great benefit of all.

Profits subsequently will be "ploughed back" through additional investment on the part of stockholders, rather than through hedging retention of current earnings.

Another Rum Plan

Beardsley Ruml, brass hat of the Federal Reserve Bank and R. H. Macy & Co., has a new tax plan. He is, as you probably recognize, the originator of the pay-as-you-go plan which has so confounded Morgenthau and Roosevelt in terms of tax receipts volume (by capturing legitimate tax returns from vast quantities of wage-earners who formerly ignored the income tax with impunity). Because of his magic name, his new plan is sure to receive almost holy obsequience.

What he proposes is the abolition of all corporate taxes except a 5% franchise levy. (This franchise levy, per se, is dangerous; it implies that any corporation, to do business, must be granted a franchise by the ruling administration.)

Individuals would then pay the bulk of all taxes. Ruml would start with a 16% normal tax rate on individual incomes, plus surtaxes ranging from 1% to 50% on incomes of \$200,000 plus. This plan certainly has attractive features, in comparison with today's exorbitant "take."

Ruml would further eliminate all excise taxes save those on liquor, tobacco, gasoline, and perhaps jewelry and furs. He would issue no more tax-exempt bonds. (Returning servicemen are likely to ask: "Why exempt any bond income from taxation?")

He would also finance social security payments on a current basis, instead of following the Roosevelt practice of accumulating artificial and non-existent "reserves," through excess payroll deduction, to accommodate current unwarranted federal "expenses."

By transferring almost the entire income tax burden to individuals, Ruml hopes to cut prices while maintaining today's inflated wage scale. He truly believes that his new plan will provide the United States with a second-in-Ruml's lifetime opportunity for lifting itself by its bootstraps.

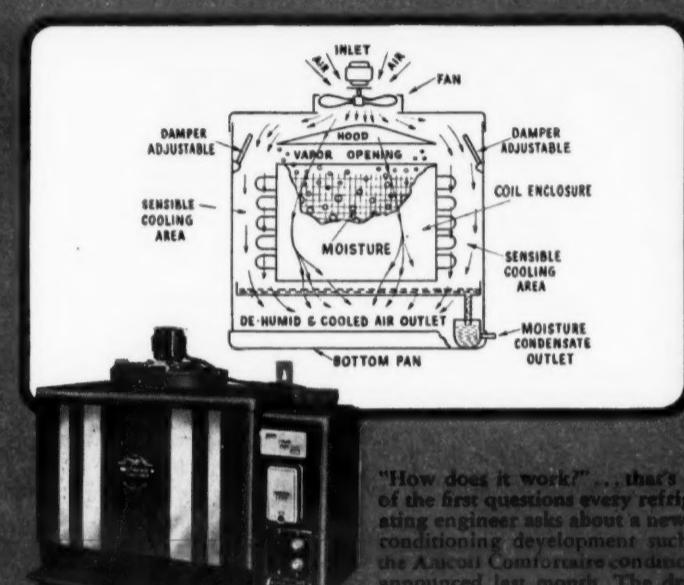
NOW YOU SEE IT

ON THE INSIDE



—THE
SENSATIONAL
AMCOIL
COMFORTAIRE

Removes the moisture
content of air without too much change
in temperature



"How does it work?"...that's one of the first questions every refrigerating engineer asks about a new air conditioning development such as the Amcoil Comfortaire announced last month. The drawing shown above gets to the heart of the matter, gives the key answer. In it you see that recirculated air while passing through the Comforaire does not come into contact with the cooling coil.

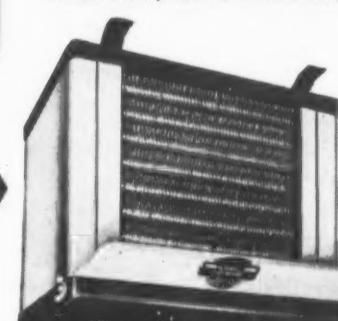
That's why, as you can readily see, dehumidification takes place without appreciable loss in temperature...why this new Amcoil unit removes moisture or latent heat while sensible heat is variable. Comforaire creates dry, healthful, non-shock comfort at a quarter of the operating cost of expensive reheat systems. Comforaire can be furnished in completely automatic wall mounted models which may be connected to water cooled condensing units.

ADDITIONAL AMCOIL UNITS

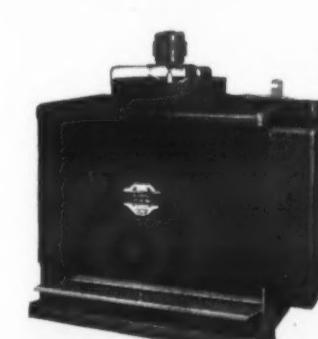
meet any refrigeration requirement



AMCOIL FOOD CONDITIONER. A wall mounted unit combining high, controlled humidities up to 85% with temperatures from 35° to 40° F. Designed for walk-in boxes it automatically preserves foods without dehydration. Can be used effectively to store meats, fruits and vegetables, butter, cheese, eggs, flowers, bakers and confectioners products, to retard dough, etc.



AMCOIL ALSERVICE OPEN FACE COOLING UNIT. Is designed for efficient cooling and serves as a general utility unit in preserving foods and other commodities where a forced draft cooling unit is required. Streamlined design, in attractive grey and black color scheme, it can produce temperatures down to 34° F.



AMCOIL ALSERVICE DOWN DRAFT COOLING UNIT. Is a new idea in refrigeration. It is a straight cooling unit that, should the need for humidity control arise, by the addition of certain parts, the unit is converted into a cooling and high controlled humidity FOOD CONDITIONER with all the advantages of that equipment.

MANUFACTURER'S REPRESENTATIVES
P. J. Burill, 800 N. Clark St., Chicago, Ill.
Frank M. Everard & Associates, 220 S. 16th St., Philadelphia 2, Pa.
Richard Bartholomew Sales Co., 1711 Challen Ave., Jacksonville 5, Fla.
J. E. Oglethorpe & Co., 505 Ulmer Bldg., Marion, Ohio
John J. Madden, 212 Madison St., Dedham, Mass.
EXPORT DEPARTMENT
13 E. 40th St., New York 16, N. Y., U. S. A.
Cables "ARLAB" N. Y.



IMMEDIATE SHIPMENT NOW FROM LOCAL JOBBERS OR DIRECT FROM US



OST 7043

Nat'l Better Business Bureau Refutes Claims for Gadget

St. Louis Bureau Says 'Refrig-O-Master' Device Failed In Tests Conducted by N. Y. Laboratory

ST. LOUIS, Mo.—"Claims for 'Refrig-O-Master' disproved by laboratory tests," is the headline in a recent bulletin published by the St. Louis Better Business Bureau which contains a report of findings by the National Better Business Bureau following further examination of this refrigerator gadget.

"To the best of our knowledge," states the St. Louis bureau's bulletin, "the St. Louis Bureau was the first to openly challenge the claims made for this device. A test made by the Mechanical Engineering Department of Washington University showed that the device did not save on current consumption.

FIRST TESTS DISPUTED

A test made in the St. Louis laboratory of the Robert W. Hunt Co. disproved other claims as well. However, these tests were not acceptable to the promoters because of technical disagreements with methods in one instance and because they questioned whether the temperature control in the other refrigerator worked efficiently at all times.

The National Better Business Bureau arranged for tests to be made

by the Electrical Testing Laboratories, Inc., a nationally prominent laboratory located in New York City. A representative of the manufacturer discussed all phases of this test and made certain suggestions which were complied with. Because he stated that where the cube-freezing compartment was in the center of the refrigerator, better results would be obtained by using a device on each side of the compartment, two devices were used in each box. But the device failed miserably to measure up to the claims made for it," states the article in the St. Louis bulletin.

REPORT OF NATL BUREAU

The report of the National Better Business Bureau, as printed in the bulletin of the St. Louis bureau, reads as follows:

"Hailed by its promoters as an amazing, scientific discovery which would keep a refrigerator colder with less current, a gadget called the 'Refrig-O-Master' has failed on test to upset any of the fundamental laws of thermodynamics.

"The 'Refrig-O-Master' consists of a cardboard box measuring 9 1/4 by

Bulletin of St. Louis Bureau Attacks Claims

BULLETIN
OCT. 11 NOV. 9 '48

ST. LOUIS BETTER BUSINESS BUREAU BULLETIN

CLAIMS FOR "REFRIG-O-MASTER" DISPROVED BY LABORATORY TESTS

In our bulletin of February 10, we questioned claims made in advertising for the "Refrig-O-Master," which, we believed, would lead the reader to expect miracles to take place in his or her refrigerator. This device was advertised as capable of reducing the operating costs from 25% to 50%; preventing food dehydration; stopping the formation of frost; preserving precious vitamins; eliminating all refrigeration odors and increasing the life of the refrigerator. The device was widely exploited in local advertising as well as in other parts of the United States. It sold for \$8.85.

First Tests in St. Louis

To the best of our knowledge, the St. Louis Bureau was the first to openly challenge the claims made for this device. A test made by the Mechanical Engineering Department of Washington University showed that the device did not save on current consumption. A test made in the St. Louis laboratory of the Robert W. Hunt Company disproved other claims as well. However, these tests were not acceptable to the promoters because of technical disagreements with methods in one instance and because they questioned whether the

claims made for it.

A copy of the laboratory report is on file in the office of the Better Business Bureau in St. Louis where it may be examined by anyone who is interested.

The Bureau was advised that the concern which mines the raw product has never made any claims for the product other than that it would eliminate odors.

Dealers Will Refund Purchase Price

The distributors in the St. Louis area have authorized the Better Business

temperature control in the other refrigerator worked efficiently at all times.

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Dealers Will Refund Purchase Price

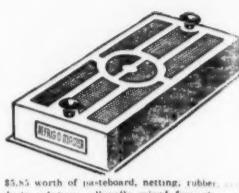
The distributors in the St. Louis area have authorized the Better Business

Bureau to state that the originally advertised offer to refund the purchase price to any dissatisfied customer will be adhered to and the returned merchandise accepted from the dealer for credit.

The report of the National Better Business Bureau reads as follows:

"REFRIG-O-MASTER FAILS IN TESTS"

Claimed "Miracle Performance of Sensational" Refrigerator Gadget Fails When Subjected to Scientific Tests.



\$8.85 worth of pasteboard, netting, rubber, and a dusty substance allegedly mined from the earth.

that this product would increase refrigeration. The manufacturer has discontinued this claim and now says the claim that use of the product will preserve vitamins until such time as it can be definitely proven that they are justified. The Bureau has reviewed no conclusive evidence that the introduction of a 'Refrig-O-Master' eliminates all refrigerator odors.

The Chem-Co Products Co. has discontinued claiming that 'Refrig-O-Master' will reduce operating costs or lower temperatures. Its latest advertising describes 'Refrig-O-Master' as an 'amazing refrigerator accessory' which is 'guaranteed to save food, work, money.' In explanation of these claims, the copy states:

"1. SAVES FOOD . . . prevents excessive drying out. Magic protection against food spoilage and wilting—keeps foods fresh and crisp.

"2. STOPS FOOD ODOR PROBLEMS . . . prevents contamination and spoilage. Keeps refrigerator smelling sweet and clean.

"3. ELIMINATES bowl cover floss, expense, also waxed paper. Onions, fish, cheese, etc., may be placed side by side uncovered.

"4. LESS DEFROSTING . . . less bother. Some users defrost only every two weeks; others every four weeks or even longer."

"The scientific tests made for the bureau show that the introduction of a 'Refrig-O-Master' into a refrigerator does not retard the formation of frost nor does it affect the dehydration of food. Whether it stops food odors has not been established by the bureau."

The above cut is a reproduction of part of the article carried in the Oct. 6 issue of the St. Louis Better Business Bureau Bulletin reporting on tests conducted by the National Better Business Bureau to prove or disprove claims made for the "Refrig-O-Master device." According to this report, laboratory tests have proved false such claims as that the device will retard the formation of frost on evaporators and reduce food dehydration.

INTEGRATION*

...will be the answer to many post-war Air Conditioning Problems



LARGE WINDOWLESS BOMBER PLANT COMPLETELY AIR CONDITIONED BY WORTHINGTON

In this great aircraft plant, 12 Worthington centrifugal refrigerating units provide capacity for 12,375 tons of refrigerating effect every 24 hours. In addition, Worthington auxiliary equipment installed in this plant includes centrifugal pumps, steam-jet air ejectors, steam condensers and Worthington-Moore steam turbines.

Integration of major operating equipment, through the purchase of essential machinery from a single source . . . is one of the characteristics of the Worthington-engineered air conditioning installation illustrated and described above.

Integration results in the more reliable performance of machinery with related and interdependent functions. Worthington . . . making Diesel and gas engines, steam turbines, condensers, Multi-V-Drives, refrigeration valves

and fittings, as well as pumps and compressors for every purpose . . . is best able to bring this vital factor — integration — into the air conditioning systems of the future.

With regard to your present plans . . . Worthington engineers are ready to consult with you without cost or obligation. Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N.J. Specialists in air conditioning and refrigeration machinery for more than 50 years.



WORTHINGTON
BEHIND THE NAME



INTEGRATED AIR CONDITIONING AND REFRIGERATION



ENDS SEALED

Coil ends are sealed
to prevent dirt or moisture
from entering

PENN TUBING

PENN BRASS AND COPPER COMPANY • ERIE, PA.

PENN BRASS AND COPPER
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ELECT

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COOLERS
• OIL
SEPARATORS
• TWO-TEMP
VALVES
• ACCUMULATORS
• EXCHANGERS

TEMP

47 PIQUETTE

TEMP

N.E.W.A. Offers Plans For Employing Veterans In Appliance Sales & Service

(Concluded from Page 1)

establishments for handling of frozen foods, improved air conditioning, etc.

"This does not mean, however, that the entire picture of opportunities in the industry should not be presented in the initial story to returning veterans and war workers. There would be no better training for future salesmen, when appliances and equipment are again available, than actual experience in the service and repair of existing devices. This may be one means by which the industry can retain those men who might be eligible and qualified for sales jobs until equipment is again available."

The N.E.W.A. bulletin suggests that four steps are needed to make the suggested plan successful:

1. Development of local industry cooperation.
2. Creation of interest in the plan in the minds of those seeking new jobs.
3. Arrangements for the equitable distribution throughout the electrical industry of applicants for employment.
4. Exchange of information and data between local activities to bring about national results.

HOLD MEETINGS FIRST

To develop this cooperation, says the N.E.W.A., it will be necessary that meetings for the principals of all establishments in the electrical industry be held. At these meetings all interested parties would be advised of the employment demands which the future will make on the industry. The plans for meeting these demands will be explained, including how to pay the cost by means of a sustaining program.

Such a sustaining program would be one in which the various branches of the electrical industry contribute a percentage of the estimated cost and the power company contributes an additional amount to equal the estimated cost of the program.

REGISTRATION FEE

A registration fee is suggested in the proposals for each establishment which agrees to participate in the plan. This amount when equalled by the power company, or when a multiple of this fee is contributed by the power company, will produce a set or predetermined amount for each participating firm. The total sum of registration fees and contributions would be used in the first phase of the program.

The amount derived from the registrations and contributions may not be sufficient to continue the program beyond the initial period, the bulletin

continues. It may therefore be necessary that a charge be made for each applicant who is accepted, after a 30-day trial, for employment by an establishment participating in the program.

It is further suggested in the bulletin that the Electric League in the various communities whenever possible underwrite the program in the amount sufficient to guarantee a successful program, such money to be returned to the League as the registration and employment charges are paid by the participating establishments.

HOW TO 'PROMOTE' JOBS

As a first phase in such a program it is suggested that display cards about the plan be placed in every possible electrical dealer's shop, store, and office location; and wherever possible in the USO's, draft boards, ration boards, veterans' hospitals, and personnel offices in the local area.

The display card would call attention to the advantages offered by the industry and suggest that those reading it ask for a booklet which would describe the opportunities within the field more fully. The booklet would be accompanied by a return postcard addressed to the local league or other clearing house. This brochure might very well contain pictures of stores and shops, scenes of actual electrical appliance repair, construction and maintenance work being done by electricians and power company operators.

It is not expected that a display card in the store and the distribution of booklets in veterans' centers would provide enough applicants, and further promotion through newspaper and radio advertising would probably be desirable.

Presuming that these efforts will create a desire to find employment in the industry, the individual application will be sent with a letter asking the applicant to complete the form and to bring it with him when he comes in for a personal interview. The application will become part of an employment file, after a personal interview has been had with the applicant.

HANDLING THE INTERVIEW

Much better results will be obtained if the league or some central clearing house handles all interviews, "screening" the applicant and attempting to fit his abilities into the special requirements of each organization or prospective employer.

As quickly as this matching of abilities and requirements has been made, the prospective employee will be given letters of introduction to several of the establishments who have need for his services.

A bulletin prepared periodically listing applications for jobs, (properly keyed, so that names are not mentioned; for easy and quick file finding) should be considered, it is recommended. These bulletins might also be sent to other areas where a hard-to-place man may have applied for a job and been screened but no local job was available—or when a man might prefer a job in a community some distance from the point of interview.

INDUSTRY TO SUBMIT LISTS

As another essential part of the program, it is suggested that each participating principal furnish the central clearing office with a list of the number of employees that he needs. This list would describe the skills needed in the various jobs, the hours of work, etc.

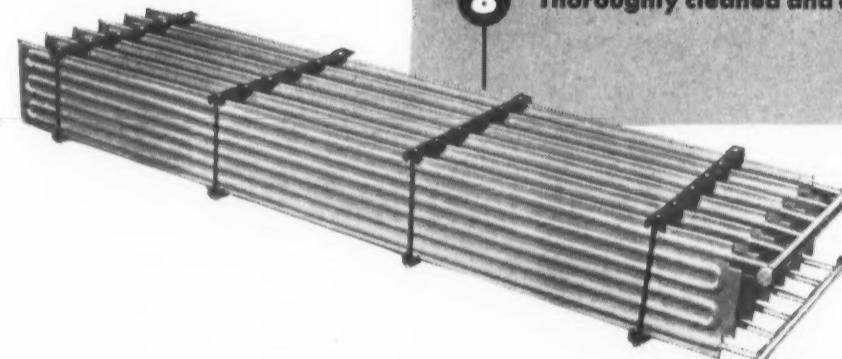
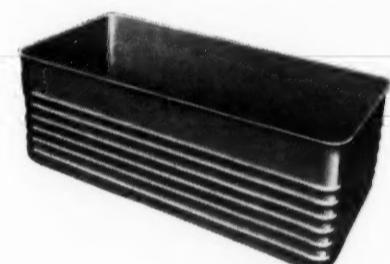
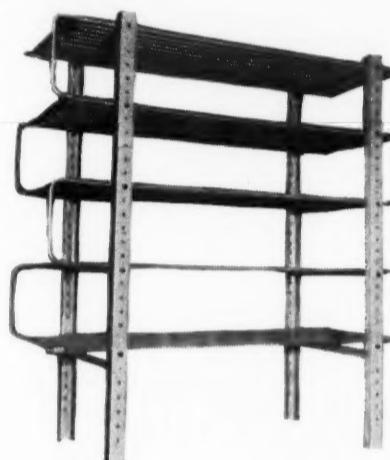
Upon receipt of these lists they will be broken down into card form within the particular skills common to the industry, forming a file which will be used in matching the skills of the applicants.

All participating firms would receive the form asking them for their list of help wanted at the same time. Requests for help would be filled in order of their receipt.

The N.E.W.A. bulletin offers a sample budget for an initial activity of this sort, with the sample registration fee being \$15 per company, and the local utility company contribution being three-quarters of the total. Further information on the proposed plan may be obtained from National Electrical Wholesalers Association, 500 Fifth Ave., New York 18, N. Y.

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How To Establish a Local Potential For Postwar Appliance Sales

Editor's Note: W. F. Switzer, manager of Frigidaire's Market Research and Organization Department, talked to 170 members of the ninth annual conference of the International Association of Electrical Leagues in Detroit Sept. 20. Basically a discussion of analyzing the postwar appliance potentials in any given area, the electric refrigerator was the appliance he chose for specific detail. His talk, crammed with information on how to get the figures you need, and how to use them, is reproduced in condensed version here.

First part of Mr. Switzer's article appears here. Second and concluding instalment will probably be published in the Nov. 6 issue.

First of all, we cannot apply over-all generalizations to this problem. Generalizations just won't work locally. Each locality is a complete potential market unto itself, and must be studied carefully, and watched constantly, for markets can change rapidly, due to conditions perhaps entirely unforeseen or unrecognizable today.

Second, when we have established a potential, all we have established is a possibility for sales, and many other factors over and above the mere establishing of the mathematical potential will come to bear in influencing the final attainment or failure to attain the accomplishment of the results indicated by the sales potential established.

If we can proceed on the basis

that after all the establishing of mathematical potentials is only the starting point, a basis in other words, for a better understanding of the size of the local selling problem each of us may have, then I think we might get some helpful suggestions out of discussing some of the factors to consider in establishing local postwar appliance potentials.

I would like to make clear that your job in establishing local potentials is a much different job than the establishing of an overall national potential and, indeed, much different than the job the manufacturer has in establishing his specific potential sales goals.

In the first place, the job of establishing a national potential for any appliance, because of the over-

all scope of the job, and because of the various figures available nationally that are not available locally, is an entirely different job than establishing a local potential, with its more rapid, in many cases, and certainly more variable and shifting conditions.

Therefore, it would be of little help to us to discuss the establishing of national potentials. That is a subject within itself. Furthermore, to take a national figure, no matter how accurate it might be and merely assign a given percent of that figure to a specific local market on the basis of certain index figures and say "that's it" would be a mistake. So much else must be given consideration.

In the second place, the job of the manufacturer in establishing how many of his products he should sell in a given locality, is a very different problem. The manufacturer, can, by the proper weighing of past sales, organization structure, and all of the other index figures available, establish an overall percentage of his total business that he should secure from any given market as a minimum and still attain that goal, even though the total local potential for a specific year might vary considerably from his forecasts.

The only thing that would be affected, if he put the proper effort behind the attaining of his established potential goal, would be the

Table 1—Refrigerator Saturation vs. Rate of Sales in 10 Sample Cities

City	From 1940 Census		1940 Ref. Ind. Sales	Sales Per 1,000 Customers
	Domestic Electric Customers	Mechanical Refrigerators In Use		
A	27,819	9,416	34	1,191 43
B	67,501	24,552	36	8,330 123
C	96,777	45,108	47	7,002 72
D	225,896	108,346	48	21,303 94
E	39,324	19,470	50	3,688 94
F	88,463	46,066	52	10,544 119
G	21,242	11,658	55	3,237 152
H	102,063	57,605	56	9,028 88
I	103,964	60,842	59	14,827 143
J	227,718	158,848	70	19,726 87

percentage of the specific appliance business he would secure in a given market. So whether he would attain, by reaching his potential goal, 10% or 20% of a specific appliance total in a given period would depend on how much the total market business for that appliance was that year.

Since this is the problem in hand, the manufacturer's method of establishing his specific local potentials is irrelevant here.

It all sums up to the fact that the local dealers and their distributors in specific communities have the tough problem of forecasting what should be sold, *in total*, of any given appliance in that market, in any given period of time—and the national picture, or the individual manufacturers' local potential assignments have comparatively little to do with the establishment of this overall market index. Your local potential is dependent almost entirely on a number of vital local factors and how they may fluctuate in your individual market during any given period of time.

Basis For Potential

Basically, the potential in any given market, for any given appliance, at any given time, depends on these three things:

1. The consumer's interest in owning that appliance.

2. His ability to buy that appliance.

3. His ability to use that appliance.

While there are other significant factors, these are the three broad fundamentals necessary to properly evaluate in the establishing of any local potential.

In connection with the first point, the electrical leagues and the public utility each play a big part in educating the public. In connection with the second point, the whole structure of business postwar, of employment, of savings, of the whole economy of your locality will play a big part. In connection with the third point, the public utility plays the most important role because when we are talking about electrical appliances, the ability to use depends primarily on whether or not the family has electrification.

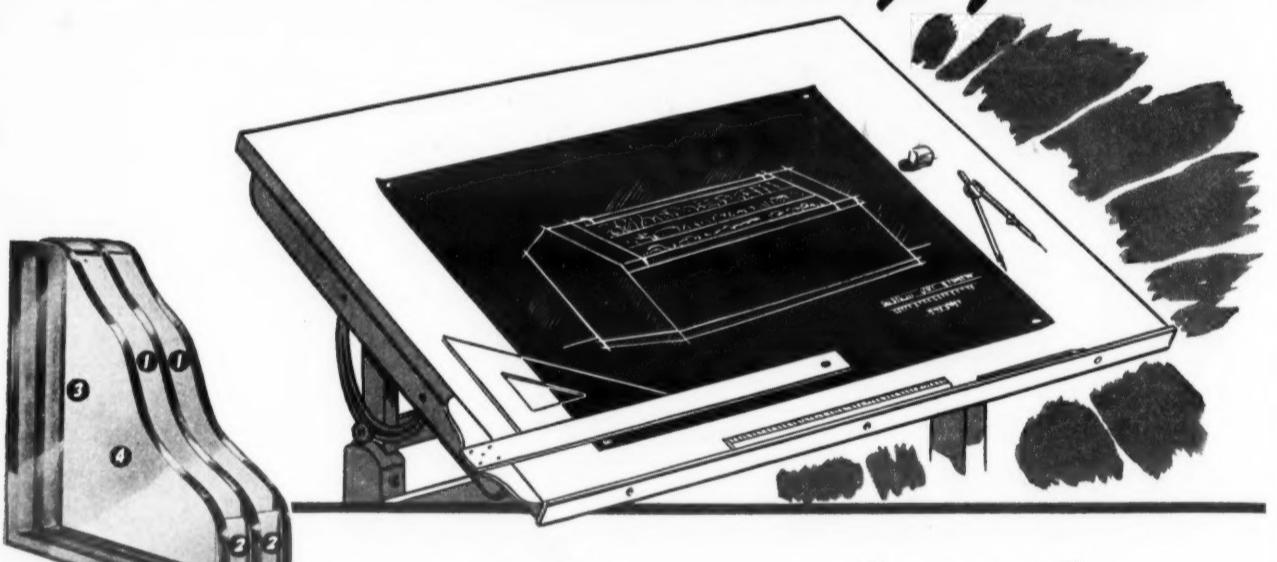
Let us consider a few basic facts and figures concerning the national picture, merely by way of background to guide us in establishing some of the basic ground rules that will apply equally well to local potentials.

Since it is very difficult to deal with a miscellany of appliances, let's confine our discussion today primarily, to one specific appliance. For purposes of illustration, since household refrigerators will be a most important postwar appliance, I have chosen to use the household refrigerator as my example. Others could have been used to illustrate in about the same way. The basic point that one thinks of first as affecting potential is that of the unsold market for refrigerators as compared with yearly sales of refrigerators.

We used to think of a "saturated market" as a place rather overstuffed with consumer goods. A place so filled to overflowing with the good things of life that any attempt to sell it more would be futile—a waste of time to the seller and a bore to the satiated consumer.

"Saturation" isn't the term that should be used, though. Les Moffatt has applied a better one:

FOR *Better* REFRIGERATION DESIGN SPECIFY THIS *Insulating Glass!*



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3 Clear Vision.
4 Only Two Surfaces to Clean.

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For complete information about THERMOPANE and its many applications in the refrigeration industry, write Libbey-Owens-Ford Glass Company, 60104 Nicholas Building, Toledo 3, Ohio.

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Table 2—A Few Postwar Estimations Compared With Prewar Sales

Major Electrical Appliances	*Ind. Sales		Postwar Estimates			Surveys of Consumer Demand	
	1940	1941	P.A.M.	Mdse.	Nat. Adv.	O.C.E.	Chamber
Refrigerators ...	2,600,000	3,500,000	4,480,000	3,750,000	4,386,000	3,484,000	2,625,000
Ranges	450,000	728,000	1,005,000	785,000	.....	.....	.....
Water heaters ..	125,000	205,000	269,000	.....	.....	.....	.....
Washers	1,455,000	1,892,000	2,177,000	2,300,000	5,117,000	3,936,000	2,100,000
Ironers	175,000	260,000	312,000	270,000	.....	.....	.....
Floor type	.....	.....	.....	.....	.....	.....	.....
vacuum cleaners	1,385,000	1,734,000	2,322,000	.....	2,193,000	1,805,000	1,400,000
Radio receivers	11,531,000	13,700,000	19,705,000	.....	6,579,000	.....	2,555,000

*Source: Electrical Merchandising.

Method of Forecasting Future of a Local Market For Refrigerators

(Continued from Page 14, Column 5) this I am sure that it becomes apparent that the handling of the replacement business, the promotion and effort put behind it, will greatly affect the future total sales volume of refrigerators.

Basis For Optimism

No doubt all of you have seen glowing forecasts, on a total U. S. basis, of the appliance sales volume to come in the postwar? Table 2 gives a summary of two of the more conservative forecasts, and the results of three surveys of consumer demand.

Comparing the postwar figures with actual sales for 1940 and 1941, you immediately jump to the conclusion that this postwar market will be a "honey," and that the future looks much brighter than the past. Such optimistic forecasts are based, rather soundly however, upon estimates of future spending power or pent-up demand; or upon the actual opinions of contacted consumers as to what they plan to buy when appliances are available.

As a further example of postwar refrigerator sales possibilities, look at Table 3, which compares consumer expenditures with refrigerator dollar sales. We have taken the consumer expenditure data from "Markets After the War," published by the U. S. Department of Commerce, and also S. Morris Livingston's projection for 1946 of 110 billions of dollars at the 1942 price level.

Table 3—Consumer Expenditures vs. Refrigerator Dollar Sales

Year	#Spent By Consumers (Millions of \$)	\$Refrigerator Industry Sales (Millions of \$)
1933	42,400	172.7
1934	47,700	220.7
1935	52,200	253.6
1936	59,100	327.3
1937	62,500	395.0
1938	58,500	215.7
1939	61,700	321.1
1940	65,700	395.2
1941	74,600	542.5
1946*	110,000†	885.5‡

*Estimated. †In 1942 prices. ‡Projected.

Sources: #Department of Commerce. \$Electrical Merchandising.

Such national "boxcar" figures are of passing interest, yet you naturally are more concerned with what will happen in your own specific market. You want some idea of things to come interpreted in terms of your market. What will they do to you and how can you plan to meet them?

That is what I shall try to do now. I shall try to present some means or method which you can follow in studying your own particular postwar market for electrical appliances.

It must be understood that appliance sales for a certain period after production is first resumed will be primarily governed by the number of such products that manufacturers can make, and upon the proper and fair allotment of them to the dealers. Then within a reasonable time after limited production starts, you may expect all prewar production and sales levels to be exceeded. How long this "boom" period will last will depend on many things impos-

sible to accurately forecast at this time.

But now let's get down to brass tacks on the primary purpose of our whole discussion. Table 4 reproduces figures on industrial refrigeration's sales potential in one city. For our example we have chosen "Market A," a city of 250,000 population, characterized by Dr. Philip Hauser, of the Bureau of the Census, as "a market of rapid wartime growth, with postwar prospects dependent upon the city's ability to reconvert to peacetime industry."

All figures used in this example were gathered from local sources—the Chamber of Commerce, the utility, and the electrical league. Such data should be available for any other sizeable market. All future estimations are ours unless otherwise designated.

Steps in the Forecast

The first step is to take a look at a history of factors vital to electrical appliance sales and to forecast the future of "Market A," in a general way, for the immediate postwar period. To guide our thinking we have used a national figure on income payments with a 1946 (194x) projection of \$134 billions from S. Morris Livingston's "Markets After the War."

Data on employment, payrolls, and local bank debits were secured from the Chamber of Commerce. From the utility we collected figures on the number of families using electricity (domestic electric customers). The utility also made an estimate for the immediate postwar.

These facts supply the background for our forecasts. As only the industrial and mercantile figures on employment were available for past years we first expanded these figures to represent total employment. Then, taking into consideration the opinions of Mr. Livingston, Dr. Hauser, the utility, and local authorities and weighing in our own opinions of local conditions, we have made estimations for 194x. Notice that we expect employment to remain above the prewar level and expect income, as expressed by bank debits, to also be considerably above this level. Also, going way into the future (1950), we have put down a figure for domestic electric customers.

We have used electric refrigerators as our example, and our specific problem is to forecast the postwar sales of this appliance. The same principles and methods as set forth here may be applied to other appliances. However, they must be applied with a certain care and forethought.

Take for instance the electric range. Here the question of comparative rates—gas vs. electric—must be considered. Also of importance is the utility attitude toward electrical appliances or gas appliances and the amount of promotion it gives to each. In such a case, it may be best to estimate the total range market, both gas and electric, and then assign a sensible portion of it to electric ranges. A "sensible portion" logically would depend upon past sales comparisons and upon future expectations as to rates and local utility attitude.

Our second step, forecasting the year 194x refrigerator sales, is shown on Table 5 and is accomplished by using two normal sales years and a total U. S. estimate. The figure 194x represents the first full

Table 5—Forecasting the Year 194x Refrigerator Sales by Use of Two Normal Sales Years and A Total U. S. Estimate

	194x % of 1939		194x % of 1940		194x % of 1940
	1939	194x	1940	194x	
Domestic Electric Customers	28,656,000	33,000,000*	115	29,695,000	33,000,000*
Electric Refrigerator Ind. Sales	1,900,000†	4,480,000‡	236	2,600,000	4,480,000‡
Sales per 1,000 Dom. Electric Customers	66	136	88	136	111
Market "A"					
Domestic Electric Customers	61,447	72,184	117	63,095	72,184
Electric Refrigerator Ind. Sales	6,097	14,726	242	9,311	16,458
Sales per 1,000 Dom. Electric Customers	99	204	148	228	177

Sources: *Estimated. †Electrical Merchandising. ‡The P.A.M. 1946 projection.

Table 4—Establishing Appliance Potentials For a Specific Market
Market A—A City of 250,000

Total U. S. Income Payments (billions of \$)	1939	1940	1941	1942	1943	1944	194x	194x % of 1939	194x % of 1940	1950
Payroll (thousands of \$)	86,824	100,736	133,848	170,470	210,144	203,987	191,000	....	....	....
Industrial Employment	44,657	48,507	55,836	58,179	69,024	67,400	....	....	....	....
Mercantile Employment	2,840	3,133	3,599	4,094	4,269	4,000	....	....	....	....
Total Ind. and Merc.	47,497	51,640	59,435	62,273	73,293	71,400	....	....	....	....
Estimated Total Employment	75,500	82,000	94,500	95,300	107,500	106,500	100,000	....	....	....
Bank Debts (thousands of \$) 761,819	890,152	1,179,324	1,383,950	1,694,421	1,778,804	1,690,000	222	190	....	75,000
Domestic Elec. Customers..	61,447	63,095	65,622	68,752	69,450	70,184	72,184	....	....	....

Our Example

Industry Refrig. Unit Sales 6,097 9,311 11,159 2,508 Postwar Boom? Postwar Normal?

year of unrestricted production.

Here is a way to start your forecast for the postwar that is fairly simple. By simple we mean that we have not complicated the problem by superimposing a complicated mathematical formula. This method, if it can be called such, is merely a putting down on paper of the essential facts and weighing them against one another to arrive at the potential market estimation by a system of checks and balances.

We feel this a safer way of making a forecast than by use of some quick formula. If your judgment is good, the results will be good. Furthermore, by using your own figures and doing your own reasoning, you will have more confidence in the results.

We have put down total U. S. figures for domestic electric customers and industry refrigerator sales. From them we have figured a sales

rate per 1,000 domestic electric customers.

We have done this for both 1939 and 1940. By using both 1939 and 1940, we have picked two years which seem to us nearly normal. They are normal at least for recent years. By using two years, we can check the results of each against the other to insure more accurate results.

For 194x, we have estimated an electrified home figure. Also, we have adopted one of the U. S. "forecast" figures. For purposes of illustration, we have chosen Willard Hall's booklet, "The Potential Appliance Market in 1946," released by the National Electric Wholesalers Association. In

your own calculations, use the national figure which seems most logical to you, the one which comes from a source which you most highly respect. From these two figures, wired homes and sales, we have arrived at an estimated 194x sales per 1,000 domestic electric cus-

tomers for the U. S.

Then, we have gone through exactly the same procedure for "Market A," arriving at a sales rate per 1,000 domestic electric customers for both 1939 and 1940. The "Market A" rate of sales in 1939 was 150% of the national average. Assuming for the moment that this market will continue at this same level, we have multiplied the estimated national sales rate of 136 for every 1,000 domestic electric customers by 150%. The resulting figure of 204 was then multiplied by the domestic electric customers for 194x, which gives an estimated sales for 194x of 14,726 refrigerators.

This estimate was based entirely upon 1939 data, and the use of only one year can be dangerous. Going through the same procedure for 1940, we have arrived at an estimate of 16,458 refrigerators.

(To Be Continued)

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The Radio Market

SCIENTIFIC market analysts throw up their hands in utter helplessness if they are called upon to estimate the annual market for radios when production is resumed (probably next March or April). They know only that the possible 4,000,000 sets which may be available in 1945 would be quickly swallowed up. They guess, with becoming conservatism, that when full production can be resumed the annual sales figure may rise to 20,000,000 sets of all types.

The big hope for tremendous expansion of the industry is "F-M" (frequency modulation).

Jim Nance of Zenith says flatly that F-M is the "biggest thing that has happened to radio since network broadcasting was established."

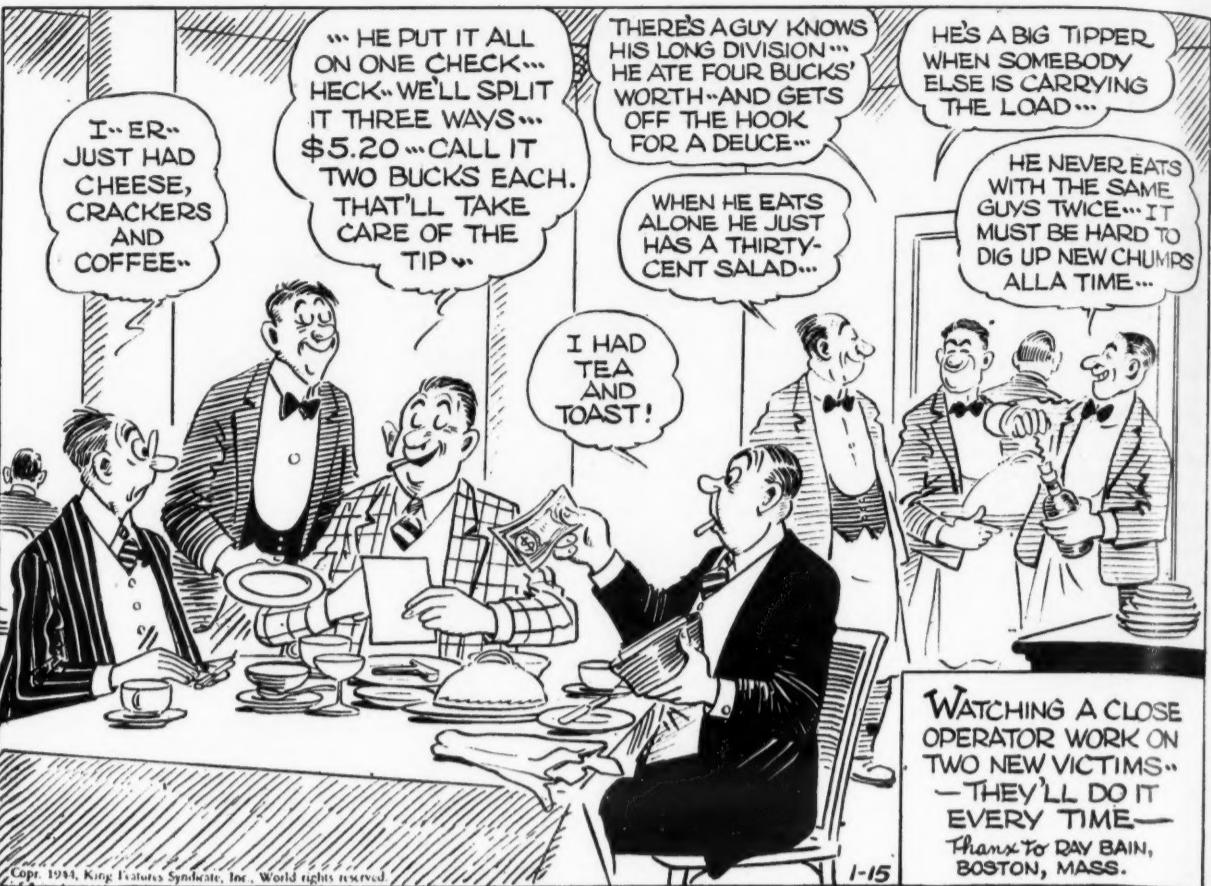
Industry executives who have come up through the engineering ranks are not so conservative, either. They are aware of the vast improvement in radio reception inherent in Frequency Modulation, and they count upon it to be enthusiastically hailed almost everywhere in the world.

F-M WOULD QUADRUPLE NUMBER OF BROADCASTERS

Not only does F-M afford high-fidelity, static-free new adventures in listening, but it also opens wide the gate to new broadcasting stations (thus inevitably making for greater program variety and a vastly expanded audience). Whereas today's broadcast band accommodates only 900 stations, with F-M almost 4,000 broadcasters can find places.

It's expected that this hugely expanded area for broadcasters will be cultivated most intensively by small-town and small-city stations. Just as local newspapers in the cities of 5,000-to-15,000 population are avidly read because of their intimate, friendly reporting of local happenings, so can

They'll Do It Every Time
By Jimmy Hatlo



new F-M broadcasters in these many localities expect close listening attention. However, F-M will go big in the metropolitan centers, too. In fact, it will get started there.

All this will provide large demand for replacement radios, as well as a market for radios in homes which will be original purchasers. In the big cities, improvement in reception through F-M, as well as Pride of Possession, is counted on for an eventual total replacement of all the radios now in use.

For the dealer, it's encouraging to note that prices of F-M sets will probably run from 10 to 30% higher than those for old-fashioned radio sets. It's also stimulating to realize that this replacement job may require from five to eight years—after which time a new obsolescence situation conceivably may arise!

DEMONSTRATIONS WILL SELL F-M RADIOS QUICKLY

Key to sales for F-M radios will be demonstration. Take that one little matter of station interference. Almost every radio owner has been annoyed by the cross-talk of interlapping stations. F-M does away with that, even though enormous expansion of broadcasting stations will occur under its tent.

Take "true reception," or realism. Those who have never listened to F-M reception will find it a revelation of tonal fidelity. It will be an experience which should lead to quick sales. And it will provide a new field of education which every parent will want to make available to his children.

Record reproduction, too, will be vastly improved in the new sets, through use of electronic principles to bring out overtones, previously hidden tones, and formerly blurred harmonies. It will lead combination-set owners to collect and treasure record libraries, including accumulations of priceless, almost sacred home recordings.

F-M MIGHT REDUCE JUVENILE DELINQUENCY

Home entertainment, and home cohesion, and family-unit importance are ready to enter a new era. Enthusiasts can even see how the new auditory thrills which will be made possible in coming combination F-M sets may even help prevent further rises in our deplorable juvenile delinquency wave. (At least, this is a selling point!)

In 1941 nearly 15% (2,000,000) of

the total number of radio sets sold were combination radio-phonographs. The dollar volume represented by these sales, however, was more than \$160,000,000—or 35% of the radio industry's total volume! The specialty-selling dealers who concentrated on "combinations" reaped the harvest.

Reception improvement will also lead to multiple sets in every home—sets for various rooms, different types of sets, rechargeable portables, and vehicle radios.

Additional obsolescence sales are expected when radio cabinet makers veer toward styles to match "period" furniture, and styles to match "mood" rooms. Externally and inwardly, the new radios should attract everyone, and will surely compete with everything from automobiles to home freezers for those loose consumer dollars.

RADIO REPLACEMENT MARKET IS TERRIFIC

Even if the enhanced tonal reception qualities of F-M radio and improved record or wire or film reproduction were not to be incorporated in coming radio sets, the replacement market would be much bigger than normal because old sets have been ruined so fast during the war.

Radio repairmen have become a vanishing species. Tubes and parts have become harder and harder to get. Old sets have been used and used and abused and abused until millions of them are no longer serviceable.

Of the 60,000,000 radios estimated to have been in use at the time of Pearl Harbor, experts believe that at least 14,000,000 are now completely out-of-kilter. And, even if they weren't made obsolescent by F-M and kindred improvements, another 14,000,000 would be considered by the statisticians to be overripe for replacement.

HERE'S AN OPPORTUNITY FOR SPECIALTY DEALERS

Now there's a market for you! The "big" specialty-selling dealers who can afford to subscribe to AIR CONDITIONING & REFRIGERATION NEWS are not likely to miss the opportunity, especially since "The News" has informed them that improved radio sets, because of wartime developments and wartime concentration on their manufacture, are almost sure to come quicker than will new models of other specialty home appliances.

Even after the pent-up demands for radio and other merchandise growing out of war shortages have been met, prosperity can be maintained in postwar America on the basis of new products and a higher standard of living, Larry E. Gubb, chairman of the board, Philco Corp., predicts.

"Actually years of research and development have been crowded into the past 32 months since the war began," Mr. Gubb states. "The stern necessities of war have been a great stimulus to research and technical progress on the part of our scientists. This war, which is being fought on both sides with the very newest technical weapons, has carried us along the road to new scientific developments at breakneck speed. The world of 1940 has already become obsolete."

WHAT'S ON THE HORIZON FOR AMERICAN PUBLIC?

"Our nation will emerge from this war with a capacity for producing raw materials and manufactured goods of unprecedented quality and workmanship on a scale never dreamed of four years ago. Great new industries, such as television, frozen foods, private and commercial aviation, and many others, are on the horizon awaiting development and offering tremendous employment opportunities."

"The war emergency brought out potentialities in both American manpower and American productive ingenuity that we never dreamed we had. But perhaps the greatest change was the change in attitude of our people."

PEARL HARBOR ERASED OUR DEFEATIST ATTITUDE

"In the fall of 1941 with the outbreak of the war the nation responded in characteristic American fashion to the challenge of the Axis. The defeatist attitude and the doctrine we had been taught for a number of years—that America had reached her peak in productivity—were forgotten in the need for war supplies."

"Perhaps some good will come out of these terrible war sacrifices. For in the last two and a half years we have been shown how great a potentiality lies before us in the future economic development of our country. We are again beginning to believe in the future. Our confidence in ourselves and in the future productive growth of this country has been restored."

In G-E Sales Post

GEORGE E. MULLIN, JR.
Sales manager of G-E's electric
sink and water heater division.

G-E Appliance Dept. Names New Personnel

BRIDGEPORT, Conn.—The reconstruction of General Electric's administrative and sales set-up of the appliance and merchandise department continues with the announcement of three new appointments, plus the realignment of the traffic appliance divisions.

According to an announcement by H. L. Andrews, vice president in charge of the A. & M. department, the traffic appliance divisions are separated into heating device and fan divisions, and the clock division.

Mr. Andrews' announcement stated that M. B. Ross, formerly sales manager of the traffic appliance divisions, was made manager of the heating device and fan divisions; R. O. Fickes, formerly in traffic appliance sales, was appointed to the post of manager of the clock division.

Other announcements included the appointments of George E. Mullin, Jr., as sales manager for the electric sink and water heater division, R. E. Boian, sales manager of heating devices, and C. R. Thorson, sales manager of clocks.

CORDLEY
THE BATTLE PROVEN
Electric
WATER COOLERS

THE PROVING GROUNDS OF WAR offer dramatic confirmation of the ability of Cordley Electric Water Coolers to withstand hard knocks. Supplied since 1942 and to the Maritime Commission. These same battle-proven coolers are now available for general use on land. Write for facts.

CORDLEY & HAYES
452 Fourth Ave., New York 16
Manufacturers of Water Coolers For 55 Years

HUBBELL YODER
REFRIGERATION PLATES

THE HUBBELL EVAPORATOR PLATE
Every square inch of surface is prime heat pick-up.
For Frozen Food Lockers, Deep Freeze Cabinets, Milk Coolers, Fruit and Vegetable Counters, etc. Write for complete information. It will pay you.

ENGINEERING SERVICE INC.
820 Standard Building • Cleveland, Ohio
Sole Agents for
YODER REFRIGERATION INC., Manufacturers

Genuine MAYFLOWER
CONDENSING UNITS AND PARTS

Jobber Inquiries Invited
A complete line backed by nearly a quarter century of user confidence. Write for prices.

MAYFLOWER PRODUCTS, INC.
13 S. 5th St., Richmond, Ind.

Court Upholds Veterans' Reemployment Rights

LANSING, Mich.—Veterans' rights for reemployment were upheld by the United States Circuit Court of Appeals for the Third Circuit in a recent case based on the Selective Training and Service Act of 1940.

"Men and women returning from military service find themselves, in countless cases, in competition for jobs with persons who have been filling them in their absence," stated the court in its written opinion.

"Handicapped as they are bound to be by prolonged absence, such competition is not part of a fair and just system, and the intention was to eliminate it as far as reasonably

possible. The Act intends that the employee should be restored to his position even though he has been temporarily replaced by a substitute who has been able, either by greater efficiency or a more acceptable personality, to make it desirable for the employer to make the change a permanent one," the court declared.

Electromaster Appoints Far West Distributors

DETROIT—Three far western distributors have been appointed to handle Electromaster ranges. They are Afton-Lemp Electric Co., Boise, Idaho; Northwest Supply Co., Butte, Montana; and the Puget Sound Appliance Sales Co., Seattle and Spokane, Wash.

N.R.D.G.A. Plans For January Meeting

NEW YORK CITY—Unless unforeseen national emergencies interfere, the National Retail Dry Goods Association will hold its regular January conference next year during the week of Jan. 8 at the Hotel Pennsylvania here, according to an announcement by Edward N. Allen, president, and Lew Hahn, general manager.

In view of the present need for restrictions on travel, the conference will be "streamlined" and there will be no drive to encourage attendance. N.R.D.G.A. officials expect this meeting will add little burden to transportation facilities.

Several important divisional meetings were canceled last summer to comply with ODT requests, but it is felt in these difficult times both business men and the country as a whole would benefit if mutual problems could be studied at the January conference, say N.R.D.G.A. officials.

Westfall Named Graybar Ohio Valley Chief

CINCINNATI—L. B. Westfall, who has been with Graybar Electric Co. for 28 years has been named Ohio Valley district head with headquarters here. He had managed the Columbus, Ohio, office since 1938. Taking over at Columbus is C. E. Furber, who since 1939 has been supply sales manager in the Minneapolis district.

Dependability doesn't happen...
IT'S BUILT INTO EVERY APPLIANCE VALVE



**A-P MODEL 270
SOLENOID REFRIGERANT VALVE**

A new departure in solenoid valve construction, the A-P Model 270 pilot operated Solenoid offers many unusual benefits in refrigerant control. A new quieting feature, manual operating stem in case of current failure, easy inspection on the line, "over-powered" Wrap-Seal water and frost-proof coil, handy reversible mounting bracket, and other features make it ideal for refrigeration units in gro-



cery stores, meat markets, florists, drug stores, and other applications requiring capacities up to 18.5 tons Freon, Capacity, Methyl or Sulphur, up to 46 tons. Precision designed, dependable, sturdy, it is built for long trouble-free service. Write for bulletin 403 and service data.

AUTOMATIC PRODUCTS COMPANY
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MILWAUKEE 10, WISCONSIN

DEPENDABLE REFRIGERANT VALVES

STOCKED AND SOLD BY PROGRESSIVE REFRIGERATION JOBBERS EVERYWHERE —
RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

Tips From An Expert

The Locker Plant of Tomorrow

Warrington Says These Are Trends More Likely To Prevail:**A Tendency To More Lockers Per Plant****Branch Locker Systems In Apartment Houses****More Processing Services By Plant Operators****Sale of Home Freezers By Plant Proprietors**

**By S. T. Warrington, Senior Agricultural Economist,
Farm Credit Administration***

I must admit that I had some qualms when your president asked me to discuss, "The Locker Plant of Tomorrow and Its Possibilities," for I doubt whether any of us know what the future holds for this industry. As a basis for my comments I should like to first review briefly the past and some facts on trends which may throw some light on the future.

As most of you know the locker plant has changed considerably since the first World War. Thus, at that time a few ice, cold storage, and dairy plants had wooden boxes and baskets in rooms held at 15° or even higher. Patrons put their own products in these boxes where they were both frozen and stored.

During the early thirties a few plants added a chill room, a sharp freezer, and a cutting block for use by patrons. These plants furnished no personnel or supervision. Patrons

*Address before the National Frozen Food Locker Convention, Columbus, Ohio.

handled their own products. However, patrons left meats in the chill room too long. They all wanted to chill meats at the same time. The sharp freezer was often overloaded. Patrons themselves objected to the confusion in this type of operation.

It was only after competent personnel was provided at the plant that the industry started the phenomenal expansion of the last eight years. As of Jan. 1, 1936, there were only 250 plants in operation. By the end of 1936 there were 450 plants in operation. During the next three years an additional 1,650 plants were built.

As of the beginning of this year we estimate that there were at least 5,200 plants in operation. Reports received from almost 2,000 operators last year indicate that these plants had an average capacity for 347 lockers with 285 patrons per plant.

Assuming that these reports are a fair sample of the industry as a whole it may be concluded that there

were 1,804,000 lockers being used by 1,479,000 patrons as of Jan. 1, 1944. It seems likely that there will be more than 2 million lockers in use by the end of this year.

This rapid growth since 1935 may be attributed to a number of changes. Though the addition of processing was probably the most important one there are others which provide us with a clue to the future of the industry. Let us review these briefly.

Affiliation

Our survey of the industry during the first quarter of 1943 reveals that the percentage of all plants operated as distinct and separate from any other enterprise increased during 1942. This is evidence of increased confidence in the stability of the locker business.

The average capacity of all plants increased from 327 to 347 which is another indication of confidence or willingness to expand the size of the enterprise. Incidentally, this increase in capacity was in the plants

S. T. Warrington is an official of a U. S. government agricultural agency who is recognized as perhaps the outstanding authority in government on the subject of refrigerated locker storage plants. This published text of his talk before the National Frozen Food Locker Association convention is pretty long, but it is "must" reading for all who have any interest in the locker plant field.

owned and operated by those operating lockers in connection with ice and cold storage, dairy plants, and those operated as separate entities. To the extent that this increase in capacity may mean more efficient operation this trend is encouraging.

form of more rigorous competition in your own back yard.

Farm Patronage

The percent of all patrons that are farmers increased from 71.0% on Jan. 1, 1941 to 74.4% on Jan. 1, 1943. This increase may have been due in part to the scarcity of meats during 1942. On the other hand it would seem to substantiate the feeling among many operators that farmers are, generally speaking, their best patrons in the long run. Too, I think it is an indication that locker plant operators made a definite attempt to increase the use of lockers by those families who had the greatest need for them.

In this connection, I should like to point out that I am sure that farmers make more efficient use of meat processed and stored in the locker plant than that which they attempt to preserve on the farm. Thus the increased use of lockers by farmers during the last two years, when farm slaughter was increased materially, has in my estimation saved millions of pounds of food which might otherwise have been spoiled. To this extent the locker has and will continue to contribute to the food program.

Location of Plants

The analysis of plant location indicates that during 1941 and 1942 there was an increase in the percentage of plants opened in larger towns and cities. Thus, whereas only 13.9% of the plants opened during 1940 were in towns with a population in excess of 10,000, during 1942 28% were in this group. Whether this trend continues in the postwar era will depend on how well you do the job of planning for urban operations.

It is possible that the branch locker system might be fitted into (Continued on Page 19, Column 1)

**Here's a Brand New Market That Has Hardly Been Scratched!**

Recently 10,000 gallons of "spoiled" milk were rejected in one city, in a single day.

"The loss could have been prevented," said a city health official, "had producers used proper cooling methods."

This is a story which repeats itself often and in many ways.

And back of it is another story, a tragic truth! There is a *milk shortage*—dairy farmers need cooling equipment that will prevent spoilage, downgrading and loss of their Grade A permits.

Here is a situation that presents dealers and distributors of MASTER-BILT Electric Milk Coolers with a ready-made opportunity, one that can be cashed-in on in a big way.

Combined in MASTER-BILT are the features dairy farmers want: Built-in ruggedness, simplicity, carefree automatic operation, quick and uniform cooling to a safe 48° temperature.

Most electrified farms producing milk for market are live prospects for MASTER-BILT Electric Milk Coolers. Purchases are authorized by

local AAA boards and are easily obtained. There is a variety of cabinet sizes, capable of cooling 20 to 240 gallons of milk per day.

Perhaps the MASTER-BILT franchise is open in your territory. If so, it's your chance to invade an *under-sold* market—an opportunity to make some real money. To find out, write or wire today.



Pictured above is the popular CW-4-S model, which provides storage space for four 10-gallon cans of milk in a single line.



MASTER-BILT
REFRIGERATION
MFG. CO.
1825 ARSENAL STREET • SAINT LOUIS 18, MISSOURI



of Friendship

TIME was when an accumulated backlog of orders measured the public acceptance of any product.

But, above the thickness of the order bank, we at Tecumseh Products Company have always treasured the backlog of friendships built up by Chieftain products in the hands of users.

- Products requiring a minimum of service;
- Products standing up to all emergency wartime needs;
- Products lasting longer, and performing better than could reasonably be expected.

That is, indeed, a priceless foundation for any postwar program!

We are still building Chieftain compressors and condensing units for the armed forces and for priority civilian requirements, and we are always available for consultation on any present or postwar refrigeration needs.

Against this limited scale of normal operations, however, we are looking expectantly to a tremendous upsurge in product "friendships" when peace once more prevails.



TECUMSEH
PRODUCTS CO.
TECUMSEH • MICHIGAN

What Advantages Has The Locker Plant To Offset Home Freezer Competition?

(Continued from Page 18, Column 5) the large apartment house scheme by providing a convenient and low cost food storage unit in the basement. Such could be serviced every other week or once per month. Lockers in the apartment basement would eliminate long waits in the grocery store at 5:30 when the working wives come home from their jobs.

Too, it would seem that a combination of lockers and home frozen food units could be adapted to the suburban family food picture. In fact, this group, with their larger families and hence emphasis on quality food, nutritious food, variety, economy, and convenience are one of the best potential markets for frozen foods.

If the urban operators are to service this group it will, of course, be necessary for them to plan for an efficient operation as well as an intelligent and effective food purchasing program. Urban operators must recognize that there is likely to be a marked change in the frozen food distribution field with the inevitable increase in volume and hence efficiency.

Look forward rather than backward in planning this operation. Flexibility should be the watchword. A careful analysis of fundamental factors as well as the whims and fancies of patrons is absolutely essential. Plant operation in the larger cities will not be the same as that in rural towns.

Processing Services

As I indicated at the outset the most significant change in the industry since its beginning prior to the first World War is the increased amount and number or types of processing services performed by plant personnel. Though the major shift, namely, that of meat cutting and packaging by plant personnel came during the middle thirties, we find an increasing percentage of the plants providing other supplementary services such as curing, smoking, lard rendering, sausage mixing, poultry slaughter, picking, and drawing as well as fruit and vegetable processing and packaging.

Of course, there is a difference in the need for these services depending on the type of production in the area as well as the type of patronage served. For example, in those areas such as on the Pacific Coast, where fruits and vegetables predominate, pork curing and lard rendering service may not be justified.

Similarly, these services would not be justified if a high percentage of your patrons are non-producers and you are buying packer loins, hams, and bacon for them. However, for the plant that is serving farmers who produce their own food supply the addition of these services would seem essential to survival in the postwar period.

Rental and Processing Rates

Annual locker rental rates are higher than they were during the prewar years. The average rental rate for all plants reporting during 1941 was 9.76 compared to 10.13 for the plants reporting during 1943. This increase is due largely to the large number of new plants reporting from the eastern and southern states where rates are higher.

The rates reported by the plants in the 10 western states were lowest with an average of 9.17 and those reporting from the South Atlantic region were highest with an average of 11.31. An analysis of operating cost would seem to justify the conclusion that rental rates will be stabilized at somewhere near these levels.

Processing rates have also been increased. The charge for chilling, cutting, wrapping, and freezing meat averaged 1.30 per hundred pounds in 1941 and 1.65 in 1943. Rates for this service were lowest in the North Central region where they averaged 1.53 and highest in the South Atlantic states where they averaged 2.16. Rates for this service when it included grinding averaged 1.87 per hundred pounds or 22 cents above the rate where grinding was charged separately.

Detailed studies of plant operating costs indicate that rates for this serv-

ice did not cover costs in some areas. Hence it seems likely that rates may be stabilized in the postwar era at some level at or above 1.50 per hundred pounds.

Operators, however, must keep in mind the fact that with the coming of more frozen food units in the home excessively high rates for processing may drive some patrons toward home processing and storage units. More efficiency and hence lower costs in the processing departments rather than higher rates may be the key to postwar survival.

Curing and smoking services were charged for at the average rate of 3.15 and 1.68 respectively. Lard rendering rates reported by 520 plants averaged 2.40 cents per hundred pounds. The rates most often charged for curing, smoking, and lard rendering were 3.00, 1.00, and 2.00 per hundred pounds respectively. These seem to be reasonably profitable for most operators and probably will be used most extensively in the postwar locker plant.

Fruits and vegetables when packaged by the housewife were frozen most generally for 1 cent per pound. The rates for this service varied widely, however, and hence it is difficult to forecast the probable level of rates for this service in the postwar era.

In general, it might be stated that rates for both processing and storage are likely to remain at higher levels than those used during the prewar period. On the other hand, both rental and processing rates are excessive in some areas particularly on the eastern seaboard. If operators in these areas expect to secure general use of their facilities and service in their communities it may be necessary to modify the rates in the postwar period.

Poundage Handled

An analysis of reports received from 1,324 plants indicates that the pounds of product processed per locker is somewhat less than anticipated. Thus the pounds of beef, pork, poultry, game, fruits, and vegetables frozen per locker rented during 1942 averaged only 382 pounds.

This was made up as follows: beef, 171; pork, 153; poultry, 10; game, 16; fruits, 18, and vegetables, 14.

Some of you may feel that these figures are low. However, a detailed analysis of records for 1943 in 26 plants located in the state of Illinois reveals that they processed 414 pounds of meat per locker rented, while the reports filed by Illinois plants in the general survey indicate they handled 395 pounds of meat plus 31 pounds of fruits and vegetables. Thus, the poundage data reported on the questionnaire is only slightly less than the average obtained from a careful analysis of records in selected Illinois plants.

The number of pounds processed annually per locker varies considerably. The Minnesota plants reported the highest average for any state in the North Central region with 488 pounds of meat and 17 pounds of fruits and vegetables. Kansas was low in this region with only 269 pounds of meat and 25 pounds of fruits and vegetables.

The conclusion which might be drawn from these poundage reports is that some locker plant operators have a real problem in getting a greater volume of products through the locker. In the postwar period plant operators must emphasize turnover and hence reduced storage cost per unit of product handled for patrons.

Postwar Competition

Those who would meet the apparent flood of frozen food units and make that tide work for instead of against them will need to analyze this development carefully and objectively. It is essential that you recognize certain possible advantages in the use of frozen food units in the home, as this recognition may determine your success in fitting these units into your plan of operation. To me it would seem there are at least two and a possible third factor which should be recognized:

First, the desire on the part of many families to have a variety of (Concluded on Page 20, Column 1)



One of America's Most Successful
Commercial Refrigerator Manufacturers
Has an amazing opportunity for
Representatives in
RICH AREAS

advertisements in leading trade publications are now building up a prospect list which has immediate possibilities.

We can consider well qualified applicants only. Wire or write at once.

FRIEDRICH Floating Air REFRIGERATORS with COOLITE

Ed Friedrich Sales Corp., San Antonio, Texas
Representatives Everywhere

The MARLO Line

Ball-Bonded Blast Coils—Cooling and Heating • Air Conditioning and Refrigeration Apparatus • Industrial Blower Units • Unit Coolers • Evaporative Condensers and Coolers • Low Temperature Apparatus

A COMPLETE LINE
Partially shown—write for bulletins.

Evaporative Condensers

Unit Coolers "Pull-Through" Type

Blast Coils

Air Conditioning Units

Low Temperature Units

Industrial Coolers

Evaporative Diesel Cooler

"MARLO MEANS HEAT TRANSFER EQUIPMENT"

MARLO COIL COMPANY

ST. LOUIS 10, MISSOURI

Warrington Outlines Various Factors In Locker Vs. Cabinet Storage

(Concluded from Page 19, Column 2) frozen food products in the home where they can be used on short notice.

Second, the problem of preserving the small surplus of garden fruits and vegetables which are harvested daily in relatively small quantities, and the fact that the latter necessitates frequent trips to the locker plant during a period when the housewife is normally busy on the farm.

Third, the charge for your labor and services.

Several Advantages

On the other hand you have in the efficient and complete processing and locker plant several advantages with which to defend yourself if they are properly advanced:

First, a storage cost which is less per cubic foot than that which can be provided in the home unit. Detailed studies of locker room operating costs indicate that you can pay normal depreciation rates, interest, power and light, and repairs for \$5.00 or less per locker of capacity. Add management to this and your actual cost is not much more than \$1.00 per cubic foot, whereas it seems likely that the actual operating cost in the farm frozen food unit of 20 cu. ft. would be about \$4.00 per cu. ft.

Second, chilling and ageing facilities for carcasses which can be used constantly throughout the year and

hence, lower in cost per unit of product than where such were provided on the farm.

Third, expert cutting by trained personnel which means better cutting and identification of cuts than can normally be obtained on the farm. The use of power meat saws and grinders reduces the labor costs and improves the workmanship.

Fourth, you have or can have modern facilities for supplementary services such as lard rendering, curing, smoking, and sausage making which should mean a better product than can be secured from farm processing.

Fifth, you can offer low temperature storage insurance against mechanical or power failure at home.

To be sure, there is a place for all types of cabinets on the farm and some of all will be sold. The large unit that will have a room for chilling meat as well as 20 or more cubic feet of frozen storage may be used by the larger farmers, the isolated ranch, the big plantation, and those who can use the high temperatures in marketing farm products.

The large frozen food cabinet without the chilling room for carcasses may be used by isolated farmers in the areas where community processing units are some distance away and where fruits, vegetables, and poultry are the main

products to be stored.

The small unit of 3 to 6 cu. ft. either as a separate unit or a part of the domestic refrigerator that supplements rather than replaces the community processing and storage unit may be used by locker plant patrons or those who have access to frozen foods in retail stores.

Where the Home Freezer Fits

Though there are many angles to consider it would seem that the small, relatively inexpensive, easily replaced unit does fit into the community locker and processing picture. There is little doubt that families could and would increase their use of frozen foods if a variety were available in the home.

Thus, instead of processing and storing 500 pounds annually per family such a unit might increase the volume to 1,000 pounds. This increased volume may come through increased use of products which are not grown locally such as fish, sea food, fruits and vegetables, or meats. I assume some of you can sell these products to patrons which should mean another source of revenue. Some of you will say that you will lose your processing to the thrifty farm housewife who will prepare the small quantities of fruits and vegetables which she raises in the garden.

Lose the processing? Yes! But if you increase the volume of fruits and vegetables stored and if you make a profit of 100 per cubic foot on this extra storage your profit will be as much or more than your profits on processing small lots of vegetables for the housewife. Further, you will do more processing of other products for many families merely because they will use more frozen foods.

Take Positive Approach

If you allow the appliance dealer in your town to take the lead without your guidance or understanding of the problem you may find him selling the large rather than the small unit. This will affect your business adversely. Therefore, it would seem wise to take the positive rather than the negative approach to

Correction

Through an error, advertising copy in the United Refrigerator Mfg. Co., Inc., and United Refrigerator Chemical Division, Inc., advertisements in the Oct. 9 issue of AIR CONDITIONING & REFRIGERATION NEWS was transposed.

The Oct. 9 issue was the largest issue of the NEWS printed this year, and because of its size, part of the printing and makeup operation was sublet to an outside printing organization, where the mixup occurred.

The NEWS sincerely regrets the error and takes this opportunity of calling the matter to the attention of readers.

Do's and Don't's For Locker Operators

Government Official Offers Following Suggestions For Postwar Success

Keep clean aprons and hats on your employees.

Wash that cutting room floor daily.

Keep those blocks clean.

Eliminate that bad odor in the chill room.

Encourage employees to be courteous and pleasant.

Teach employees how to answer questions correctly.

Avoid those conditions which may cause off-flavors on that T-bone steak.

Eliminate those mix ups in the sharp freezer and locker room which leave room for patron questions and criticisms.

Correct that condition on the locker room door which makes it difficult for some women to open it.

Establish your rates for pro-

this problem.

Advocate or even sell the type of unit which fits into your scheme of operation and at the same time sell sanitary, courteous, and efficient processing service as well as low cost storage for the bulk of your patrons' frozen foods.

The postwar operator must keep in mind the fact that when large as well as small home frozen food units become available he will be competing with:

The housewife in processing vegetables and fruits.

cessing and storage at a level which will pay costs and a reasonable profit and yet make it economically sound for more patrons to use your service.

Provide those new equipment items such as the larger grinder, the larger power saw, that big cutting table, those track scales, or anything else which will make your operations more efficient.

Possibly you will need to add a curing room for the 150 farm patrons who wish to have you cure their pork. Maybe it's a sanitary slaughtering facility that is needed to hold those marginal patrons and eliminate wasteful country driving.

Maybe you should install that branch locker room to hold that group that are some distance from your plant.

The husband in meat cutting, curing, and smoking.

The large and small meat packer who may be pre-packaging and freezing standardized cuts of meat.

The operator in the next town who is operating a complete processing service for patrons who because they have a small unit in the home need make the longer trip only once every two or three weeks to replenish their supplies.

The retailer who is dispensing the packaged frozen cuts of meat as well as commercially packaged fruits and vegetables.

Electrimatic

AUTOMATIC CONTROL VALVES AND REGULATORS

2100 INDIANA AVENUE • CHICAGO 16, ILL.

Let The Records Speak

The nation-wide acceptance of MASTER-BUILT LOCKERS is best told by the number of Locker Plants that are MASTER LOCKER equipped. Such acceptance is not a matter of chance, it has to be earned.

Whether for original installation, expansion or replacement, you will find it pays to equip with



MASTER FOOD CONSERVATORS

They are solidly built of STEEL by men who pioneered the industry. Their features assure profitable and economical Locker plant operation. It costs no more to get the "Choice of the Industry."

WRITE FOR FULL PARTICULARS

Find out why plant owners save money by installing MASTER. Costs nothing to find out. Write today.

Endorsed by and sold through distributors of refrigeration and insulation.

MASTER MANUFACTURING CORP.
121 MAIN STREET

Member of Frozen Food Locker Manufacturers
and Suppliers Ass'n. organized for your protection.

Over 650,000 Master Food Conservators in Use

Unite With United

For Postwar Leadership

During our all-out effort for the war our plant has trebled in size and our production facilities have multiplied several times our best prewar output. Obviously, we will be able to build more and faster than ever before when the green light flashes for civilian production. And because what we make in wartime is practically what we make in peacetime, we will be able to "reconvert" with the least possible delay.

These are important considerations for distributors and dealers who want to be able to supply the greatest pent-up demand in history . . . quickly and profitably.

Unite with United for a generous share of the postwar market and a commanding position in the refrigeration field.

UNITED REFRIGERATOR MANUFACTURING CO., INC.
Sales Division
ST. PAUL 1, MINNESOTA

Commercial Refrigeration

CABINETS

Oil Burner Firms Can Apply For Okay On 4th Quarter Quota of 30,000 Units

WASHINGTON, D. C.—Oil burner manufacturers may now apply for permission to produce the 30,000 domestic type oil burners for which material was recently authorized for fourth-quarter production, WPB announced Oct. 14.

Order L-74 (Oil Burners) has been amended to implement the authorization of material. Previous restrictions of the order prohibited manufacture of domestic type oil burners except when a manufacturer was specifically authorized to produce such burners for some specific installation.

Sale and installation of these oil burners to an ultimate consumer to replace an oil burner that is worn out, damaged beyond practical repair or destroyed, are freed from restrictions under the newly amended order. However, sales for new installations must be approved by either the Petroleum Administration for War or the Office of Price Administration, depending on which agency has jurisdiction over the use of fuel oil for the installation in question.

No control over distribution of oil burners from the manufacturer's level will be maintained, WPB Plumbing and Heating Division officials explained. However, each

manufacturer will be expected to distribute his production through his normal distribution channels, taking into consideration shipments to areas during 1941, migration of workers to certain areas and such other factors as will provide equitable distribution to meet essential needs.

WPB also said it reserves the right to direct the distribution of specified amounts from any manufacturer's production to meet emergencies.

The amended order provides that any manufacturer who wishes to produce domestic type oil burners (Class B) must apply for authorization by letter to the nearest WPB field office. Information about proposed production in units per quarter should be included in the letter.

Before submitting his letter, however, the applicant should consult his WPB field office to determine whether it will be necessary for him to file Form WPB-3820 for manpower clearance.

Where the applicant will need controlled materials in order to produce the equipment, the letter should be accompanied by an application on Form CMP-4B for the controlled materials. If the application is approved, the manufacturer will receive authorization to produce on Form GA-1850 from WPB.

'Refrigerated Package'

Feeds Front Line Troops

YORK, Pa.—American frontline troops can now draw rations of fresh food direct in the field from a new "refrigerated package," an 8-foot long metal container which serves as shipping carton, refrigerator, and small food depot all in one.

Developed in the York Corp. laboratories here in collaboration with Army engineers, the refrigerated package is the newest Army supply link between the rear lines and the front. It has its own gasoline powered cooling unit and is mounted on runners so it can be hauled by jeep for short distances.

Two refrigerated packages, filled with fresh vegetables, meat, or other foods are designed for loading onto a single supply truck. At the front, they can be left in a commissary or in an open field to serve as small convenient larders from which supplies can be drawn as needed.

Twin eutectic plates make it possible for the new units to maintain low temperatures for several hours exposed to the sun and with their mechanical refrigeration shut off. The plates, an inch thick and 7 feet long, are filled with a special chemical freezing solution and house the cooling coils of the refrigeration system.

The solution holds its low temperature over a long period and chills the package to 10° F. The plates, once frozen by the container's refrigerating machinery have nearly 75% of the cooling capacity of a block of ice of similar weight.

Like an outboard motor, the refrigerated package is set in operation by pulling a rope attached to the flywheel of a 1½-hp. gasoline motor set in a bird-cage housing on top of the container. Weighing 1,500 pounds, the new unit has a storage space of 2½ cubic feet.

Minneapolis-Honeywell Offers Guide on Modulflow Control

MINNEAPOLIS—Minneapolis-Honeywell Regulator Co. is offering dealers, jobbers, architects, and engineers a new engineering guide of the "Modulflow" control system for home heating and air conditioning, dealing with the engineering phases of the various "Modulflow" methods, including the new reset method.

Your refrigeration parts and supply house in Central New York and Northern Pennsylvania

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Army Tests Aluminum Refrigerated Trailer

SPOKANE, Wash.—Increase of 2½ tons in food-carrying capacity is claimed for a special aluminum body refrigerated trailer built for the Army and now undergoing a test run from Spokane to Washington, D. C., loaded with 16,850 pounds of packed frozen meat.

Designed for the Army Quartermaster Corps, the trailer was built at the Spokane branch of Brown Industries in 30 days. It weighs 6,860 pounds, compared to the 14,500 pounds standard Army refrigerated trailer. It is also 6 ft. shorter than trucks now used by the Army.

The aluminum trailer is expected to set a new mark in speedy, economical transportation of perishable foods, and following inspection by Army officials at Washington, D. C., results of the test run will be released, say officials of Brown Industries.

Preliminary designs for the trailer were made by Thoburn C. Brown, president of Brown Industries, and William Brown, production manager. Glen Pachen, engineering supervisor, completed the plans.

Acme Refrigeration Service Formed In Los Angeles

LOS ANGELES—Acme Refrigeration Service is the firm name under which Ve Joe Knizek has published a certificate that he is conducting business at 11,611 Santa Monica Blvd., West Los Angeles, Calif.

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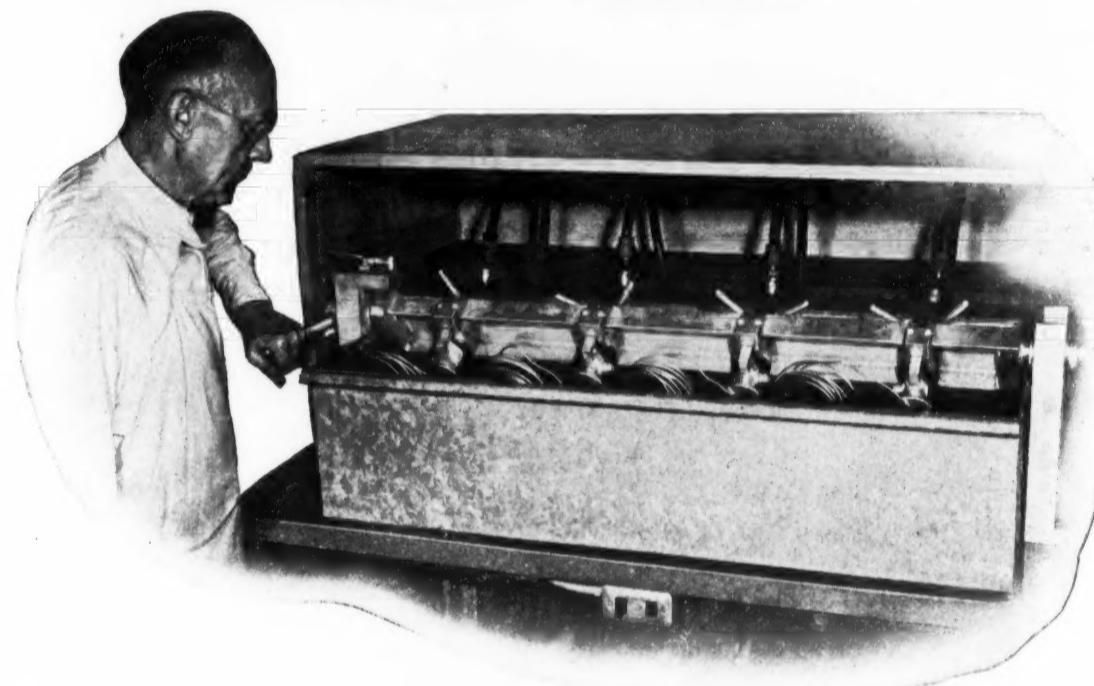
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Here is still another test through which every Alco Thermo Expansion Valve must go before leaving our plant. It checks the "liquid side" of the valves—the underside of the diaphragm, body-diaphragm joint and gear adjustment stem—for leaks.

Valve assemblies, four at a time, are immersed in the tank of the special test fixture designed by Alco engineers. Then air pressure, 50 per cent and more higher than any refrigerant pressure the valves would handle in actual service, is shot into them. Even a single pin-point bubble in the solution means rejection.

That's why we can say—"When an Alco Valve is tested, it stays tested." Alco Valve Company, 853 Kingsland Avenue, St. Louis 5, Missouri.

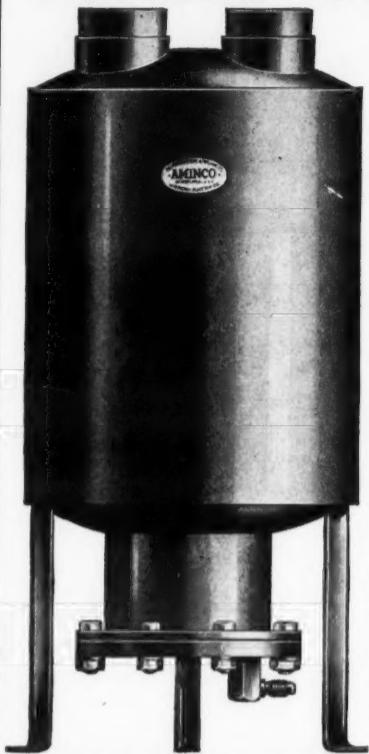


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protect Coils, Condensers, Compressors, Valves and Dehydrators by picking oil out of the refrigerant stream and AUTOMATICALLY returning this oil to its proper place, the crankcase.

Now that replacements are hard, almost impossible to get, those charged with the responsibility of maintaining existing equipment are looking for longer operative life and reduced operating costs.

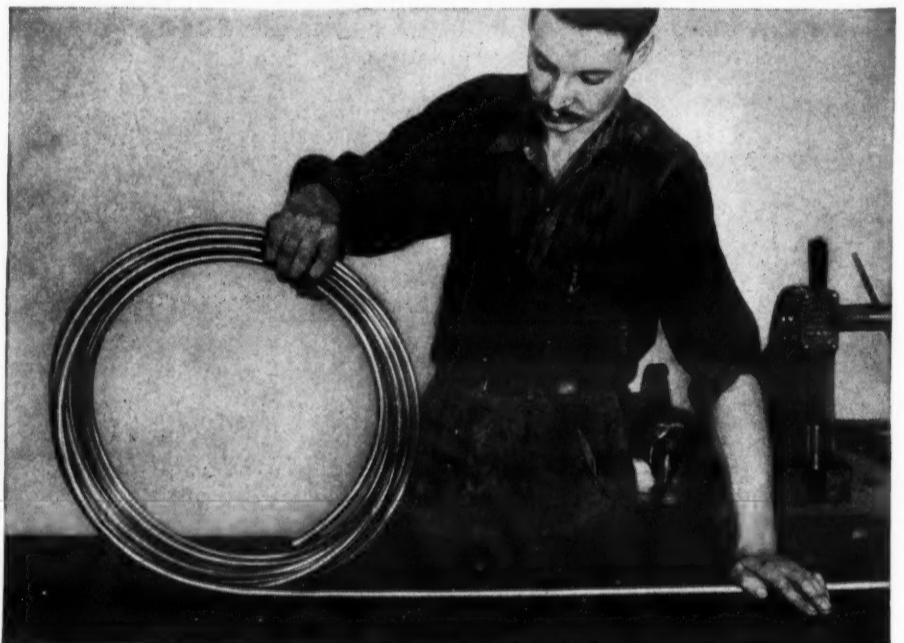
Aminco Oil Separators protect compressors by maintaining correct oil level in crankcase and by excluding oil from refrigerant stream they enable coils, condensers, valves and dehydrators to function most efficiently.

These oil separators are made for jobs from $\frac{1}{2}$ H.P. to 120 tons and are used everywhere, ashore or afloat, where efficient refrigeration is desired.

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Army Refrigeration Problems

By P. B. Reed

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Methods of Varying the Capacity Of Condensing Units (Part 3)

Another by-pass method known as the "Balance Loader System," similar to that which was shown in Fig. 1, is outlined in Fig. 3. The hot gas discharge from the compressor, instead of being by-passed directly to the suction line, passes through the balance loader (which is a heat exchanger) on its way to the condenser.

The inner tube of the heat-exchanger forms an auxiliary evaporator in parallel with the two main evaporators and this auxiliary evaporator is fed by an automatic expansion valve.

If the load on the main evaporators drops off, or if the thermostat on one evaporator is satisfied and closes the suction line solenoid valve on that evaporator, the suction pressure reduces in consequence and the automatic expansion valve opens in an attempt to hold up the suction pressure to a "normal" pressure predetermined by normal load on the main evaporators.

The auxiliary evaporator is in good thermal contact with the hot gas from the compressor and consequently there is plenty of heat available to vaporize the refrigerant fed by the automatic expansion valve. The refrigerating effect produced in the auxiliary evaporator performs useful work in cooling the hot gas from the compressor and removes some, at least, of its superheat before it gets to the main condenser.

Like the method which was illustrated in Fig. 1, this method keeps the suction pressure approximately the same regardless of the amount of variation of load on the compressor. It can be used on multiple systems having two or more evaporators

in parallel.

All of the above described methods have to do with by-passing in one form or another, as a means of reducing the capacity of a compressor if need arises; that is, if the suction pressure drops to an abnormal amount.

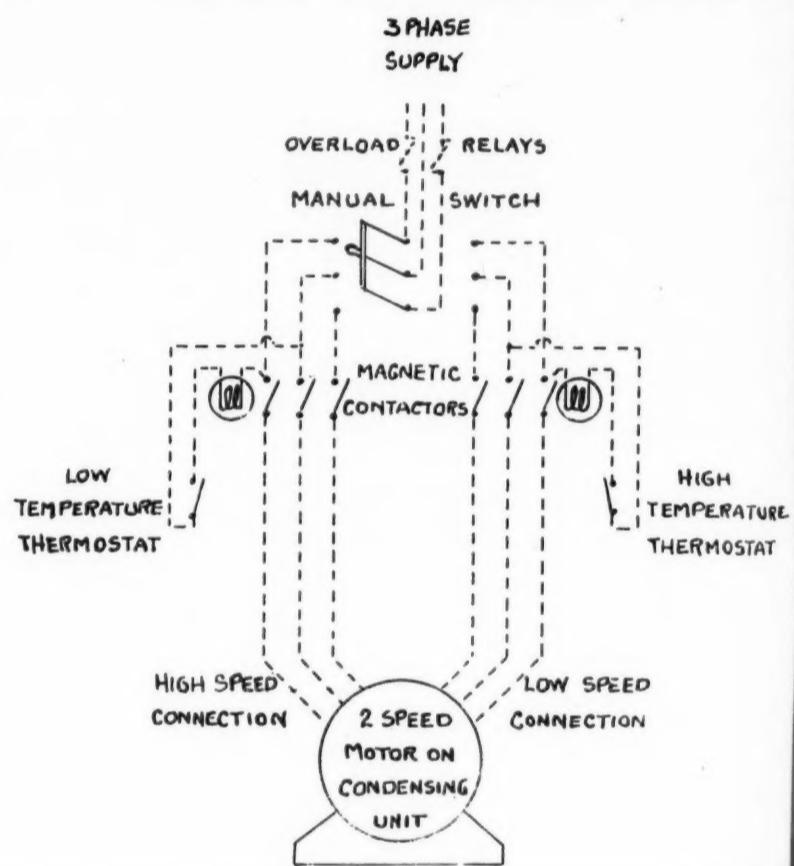
Another commonly used method that is applicable to most compressors and installations in the field is to change the amount of displacement of the compressor by changing its speed.

The speed of a belt driven compressor may be changed by replacing the motor pulley with one of larger diameter for increased speed and capacity, and with one of smaller diameter for lower speed and capacity.

Motor pulleys that are adjustable as to diameter are available in some sizes and styles; otherwise the motor pulley is replaced with one of larger diameter.

(Concluded on Page 23, Column 1)

Fig. 4. Manually Operated Speed Changeover



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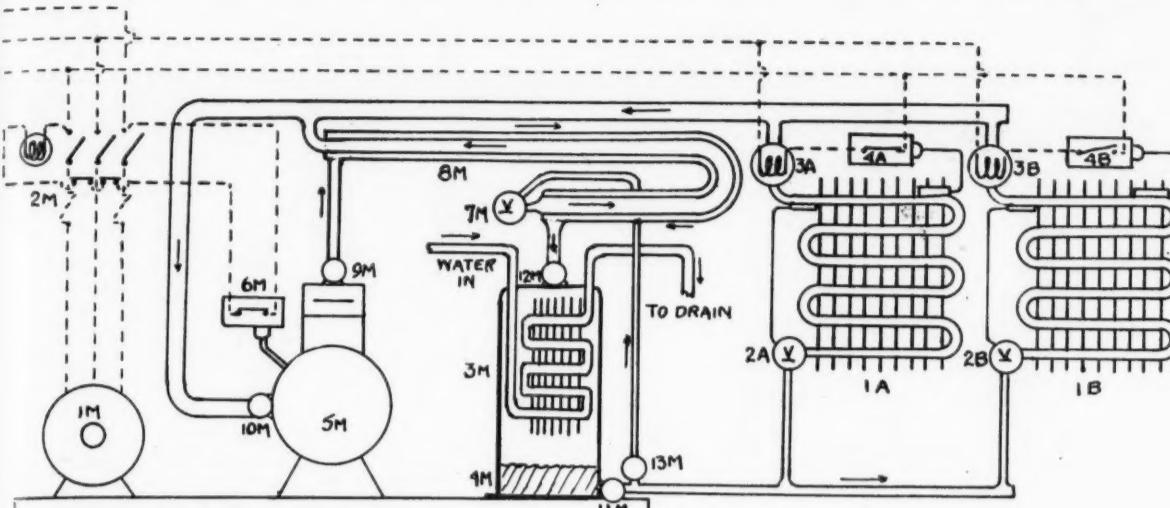
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Fig. 3. Diagram of the Balance Unloader System

Varying Speed Will Change Capacity

(Concluded from Page 22, Column 5)
or smaller diameter. For infrequent changes this is the cheapest way and is quite satisfactory.

AUTOMATIC OR ELECTRICAL SPEED CHANGE

If the speed and capacity change is to be made frequently, or if it must be made quickly or automatically, changing the motor pulley is too slow and cumbersome.

For quick or automatic speed changes, the most practical method is the use of a multi-speed motor. In the three phase squirrel-cage type they are available in the two, three, or four speed type.

In 60 cycle motors these speeds are usually 1,750 r.p.m. full speed and 1,140 r.p.m. two-thirds, or 875 r.p.m. one-half speed. Typical speeds for 60 cycle, 3 speed motors are 1,750 r.p.m. full speed; 1,140 r.p.m. two-thirds speed, and 530 r.p.m. one-third speed; or 1,140 r.p.m. full speed, 875 r.p.m. three-fourths speed, and 530 r.p.m. one-half speed.

MOTOR SPEEDS

The "synchronous" speed of an A.C. induction motor depends upon the frequency of the current and the number of poles of the motor. To determine the speed, multiply the number of cycles per second of the current by 60 and by 2 (this gives the number of alternations per minute) and then divide this by the number of poles of the motor.

For 60 cycle current the number of alternations per minute is 7,200, and if the motor has 4 poles the synchronous speed is 1,800 r.p.m. For 50 cycle current the number of alternations per minute is 6,000 so a 4 pole induction motor would run at a synchronous speed of 1,500 r.p.m. For 40 cycle it is 4,800 and for 25 cycle it is 3,000 alternations per minute. So a 4 pole, 60 cycle induction motor would have the same synchronous speed as a 2 pole, 30 cycle motor of the same type.

The actual running speed or "load" speed is from about 3 to 5% less than the theoretical synchronous speed. This difference is known as the "slip."

The greater the slip, the more starting torque the induction motor has but the poorer is its ability to hold the same speed with variations in load; so, as both are important in refrigeration practice, the slip is held to a moderate amount.

Although, as mentioned above, single phase A.C. variable speed motors are not in general use to drive refrigeration compressors, some have been used in which the position of the brushes on the commutator is

adjusted by moving the brush-holder or rocker arm. Generally speaking, however, the variable speed single phase motor is not adaptable to refrigeration work.

The D.C. motor usually used to drive refrigeration compressors is the compound-wound type as it has good starting torque characteristics and relatively good speed control.

Variable speed can be obtained by varying the resistance of the shunt field windings so as to weaken the field for increased speed and strengthen it for reduced speed.

Multi-speed motors are "special" in that the motor manufacturers do not keep them in stock, but in normal times can furnish them on order within about three or four weeks.

The speed change of a two-speed motor can be made merely by using a 3-pole double-throw switch, as shown in Fig. 4, to swing over to the other connections. If this is done manually (not automatically), certain precautions when changing from a high to a lower speed can be observed by the operator, whereas if the changeover is made automatically the magnetic starter must be specially equipped particularly with a "deceleration relay."

There is very little problem involved in changing from a low to the next higher motor speed. If, for example, the motor is running at 875 r.p.m. and the switch is thrown to "full speed," the motor smoothly builds up to full load speed.

If, however, the speed change is downward, the sudden change to the lower speed gives the compressor quite a jerk when, almost at once, the speed changes from 1,750 to 875. It sometimes breaks belts or throws them off, or even damages the motor or compressor.

Some time interval (3 to 9 seconds) is afforded by the "deceleration" relay which is a "delayed action" normally open relay which allows the motor to "coast" and slow down for a few seconds to nearly $\frac{1}{2}$ speed before the current is thrown on half speed.

The double throw magnetic starting switches equipped with deceleration relay are relatively expensive (up to about 7½ hp. the starter costs as much as the motor) so that counting the extra cost for a two-speed motor plus the increased cost for the starter makes this method too costly for ordinary installations under 10 hp.



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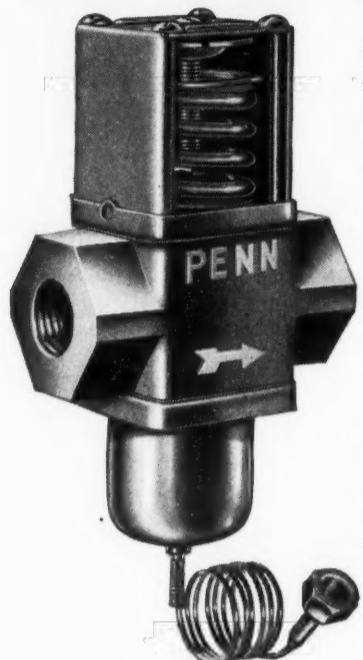
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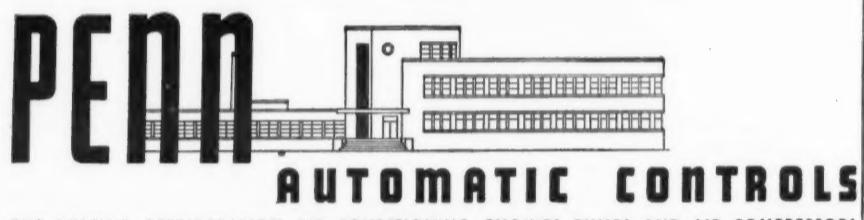


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Sedimentation . . . Corrosion . . . Rust. When these three go to work on sliding valve parts, ordinary water valves are crippled—and trouble starts. BUT you can avoid this trouble if your water valve is a PENN. You see, the new PENN Series 246 Water Regulator is so designed that no sliding parts touch the water.

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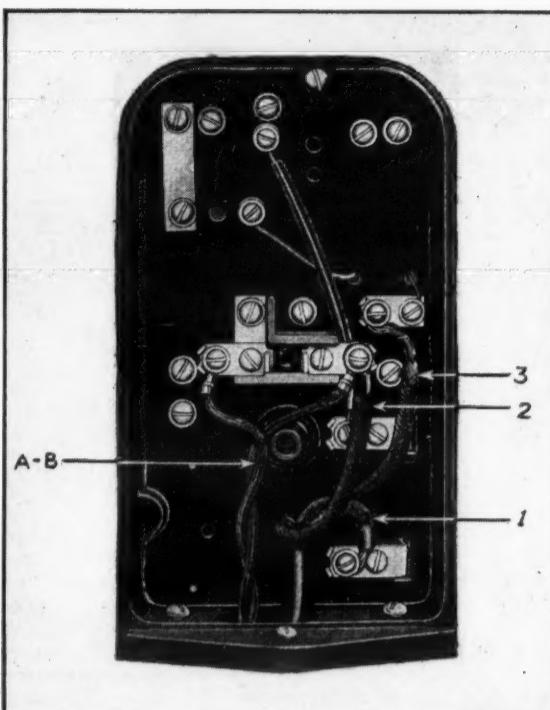


Fig. 69—Connections for DR-2 machines with Type C control. (1) Short white lead—starting winding. (2) Medium length black lead—common. (3) Long red or green lead—running winding. (4) Large black lead—starting winding. (5) Small white lead—capacitor. (6) Small black lead—capacitor. (7) Small red or green lead—capacitor. (A-B) Oil conditioner leads.

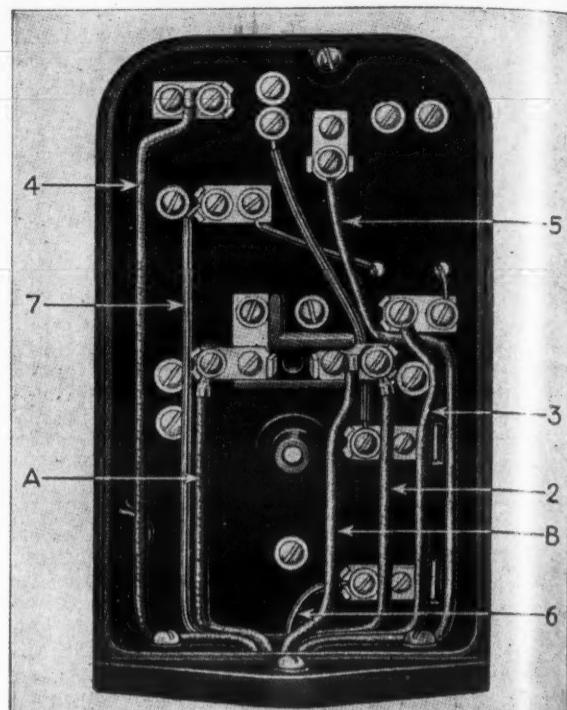


Fig. 70—Connections for DR-3 and DR-4 machines with Type C control. (2) Large red or green lead—common. (3) Large white lead—running winding. (4) Large black lead—starting winding. (5) Small white lead—capacitor. (6) Small black lead—capacitor. (7) Small red or green lead—capacitor. (A-B) Oil conditioner leads.

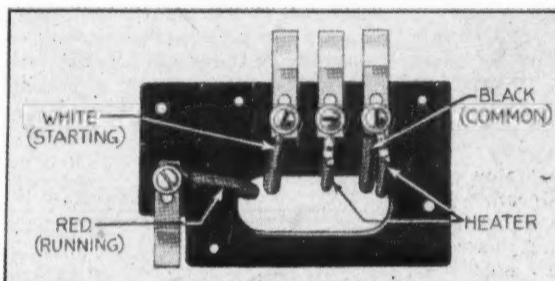


Fig. 72—Top view of base plate for DR-1 and DR-2 machines with Type E control.

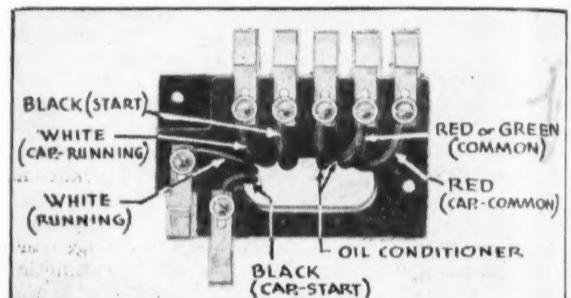


Fig. 73—Top view of base plate for DR-3 machine with Type E control.

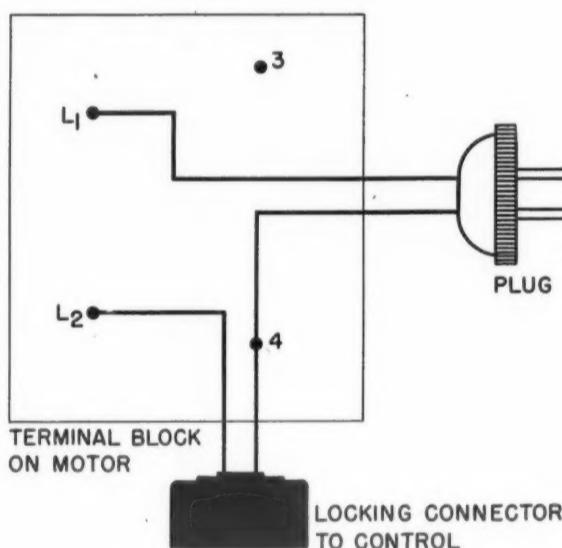


Fig. 74—Connection diagram for some CM-35 machines.

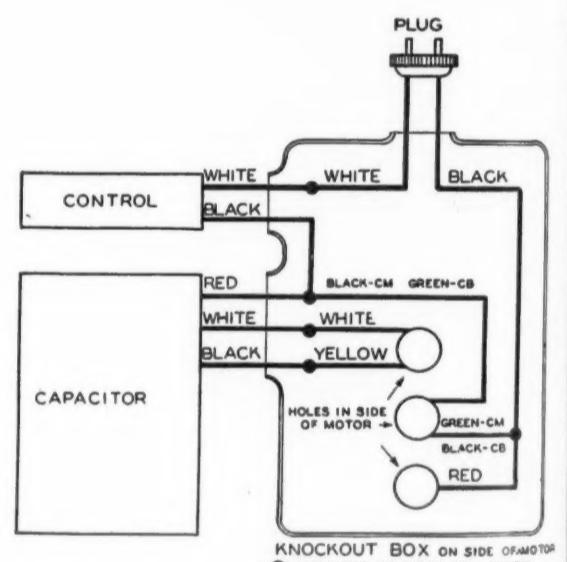


Fig. 75—Connection diagram for CB, CM-1, and CM-2 machines; separate capacitor having connections in knockout box on motor.

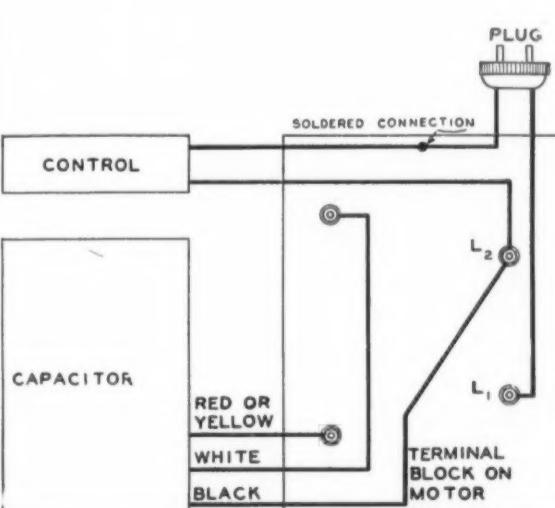


Fig. 76—connection diagram for CB machines, with separate capacitor connected to terminal block on motor.



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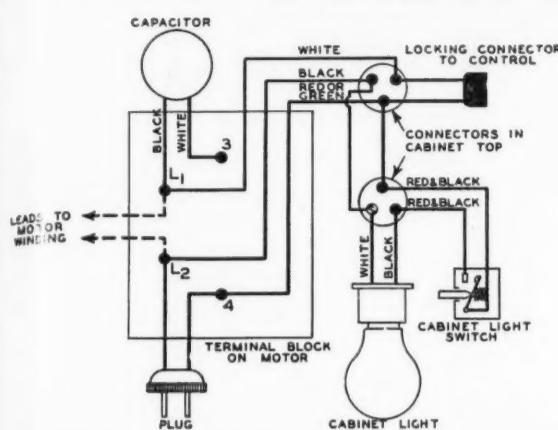


Fig. 80—Connection diagram for CD-2, CD-3, CM-32, CM-33, and CM-34 machines. Separate condenser is connected to terminal block on motor.

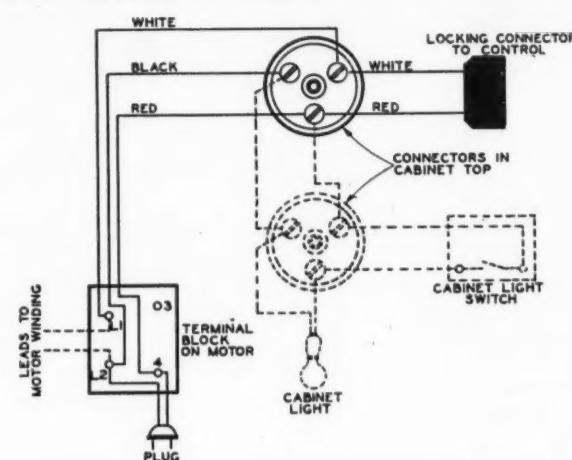


Fig. 81—Connection diagram for CM-32, CM-33, and CM-312 machines, separable condenser having removable end cap.

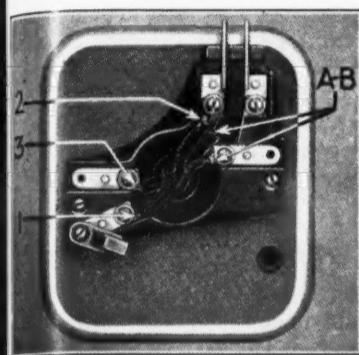


Fig. 71—Top view of base plate for DA-1 and DR-1 machines for Type D control. (1) White lead—starting winding. (2) Black lead—common. (3) Red or green lead—running winding. (A-B) Oil conditioner leads.

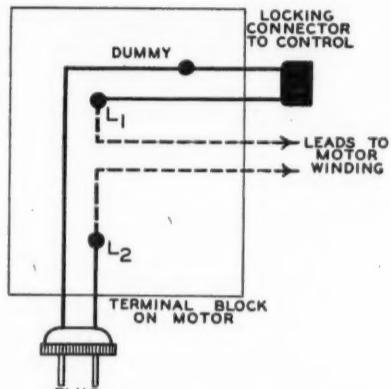


Fig. 77—Connection diagram for CB, CD-1, and some CM-35 machines; capacitor not separable from motor.

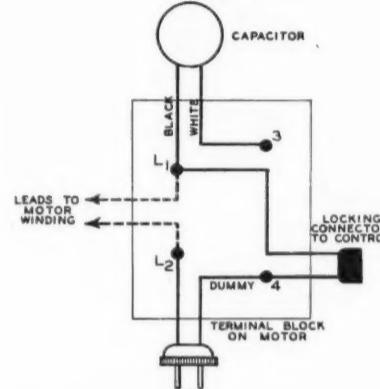


Fig. 78—Connection diagram for CD-1, CD-11, and CM-311 machines; separate capacitor connected to terminal block on motor.

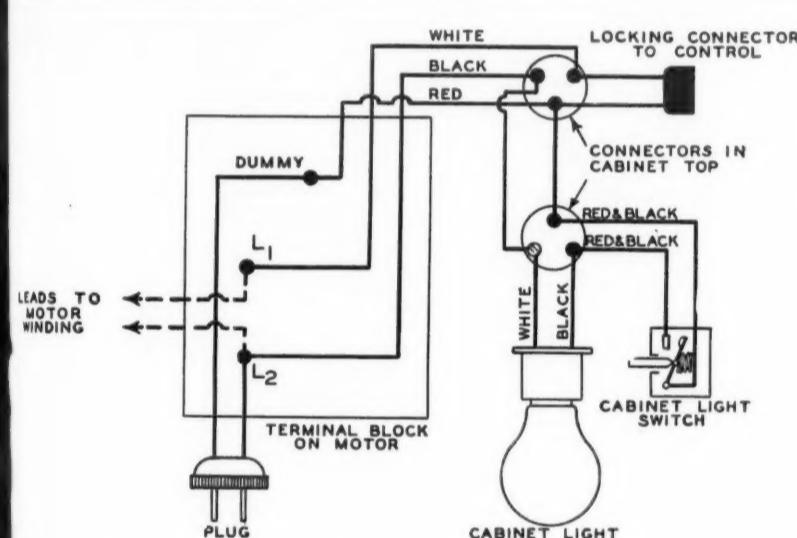


Fig. 79—Connection diagram for CD-2 and CD-3 machines; capacitor not separable from motor.

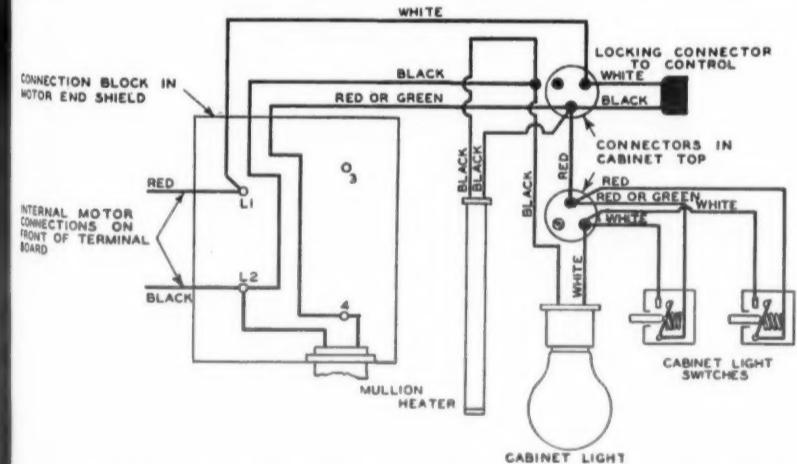


Fig. 82—Connection diagram for CM-34 machines. Dual voltage motors connected for 110 volt a.c. operation.

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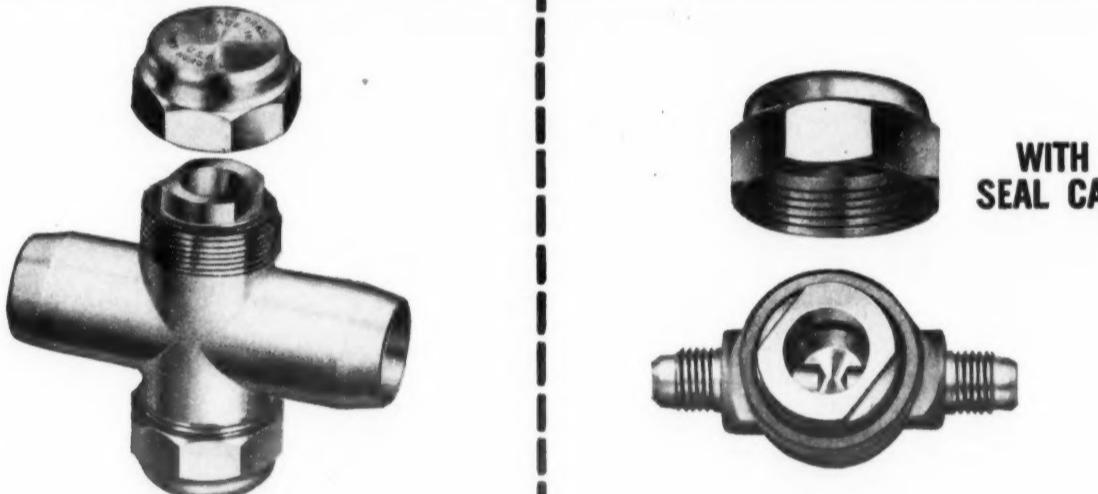
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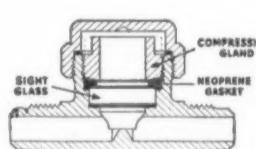
*REG. U.S. PAT. OFF.

TWENTY-NINE YEARS OF KNOWING HOW

MUELLER BRASS CO. LIQUID INDICATORS WILL NOT LEAK



DOUBLE PORT LIQUID INDICATOR



seal cap and open port type may be installed where light conditions are favorable. Where the light is poor, we recommend the use of our double port liquid indicators illustrated here. By flashing a light through one port, the exact condition of the refrigerant may be determined through the other port.

The new design of the compression gland permits the use of standard wrenches for tightening.

NOTE: All models of Mueller Brass Co. filters and line strainers may be obtained with female flare connections on one end. This makes it possible to assemble any desired filter to a liquid indicator for installation in the liquid line of the system.

MUELLER BRASS CO.
PORT HURON, MICHIGAN



The BEN-HUR Farm Locker Plant

Talk to any farmer about a farm locker plant and his first comment will be, "wish we had it now." And he'll follow with the promise that food freezing and frozen storage is the FIRST thing he's going to add after the war.

For most farmers already know the benefits of owning a BEN-HUR FARM LOCKER PLANT—the economy, time, and food saving advantages of freezing and storing farm-grown vegetables, meat, poultry for delicious meal variety weeks and months later.

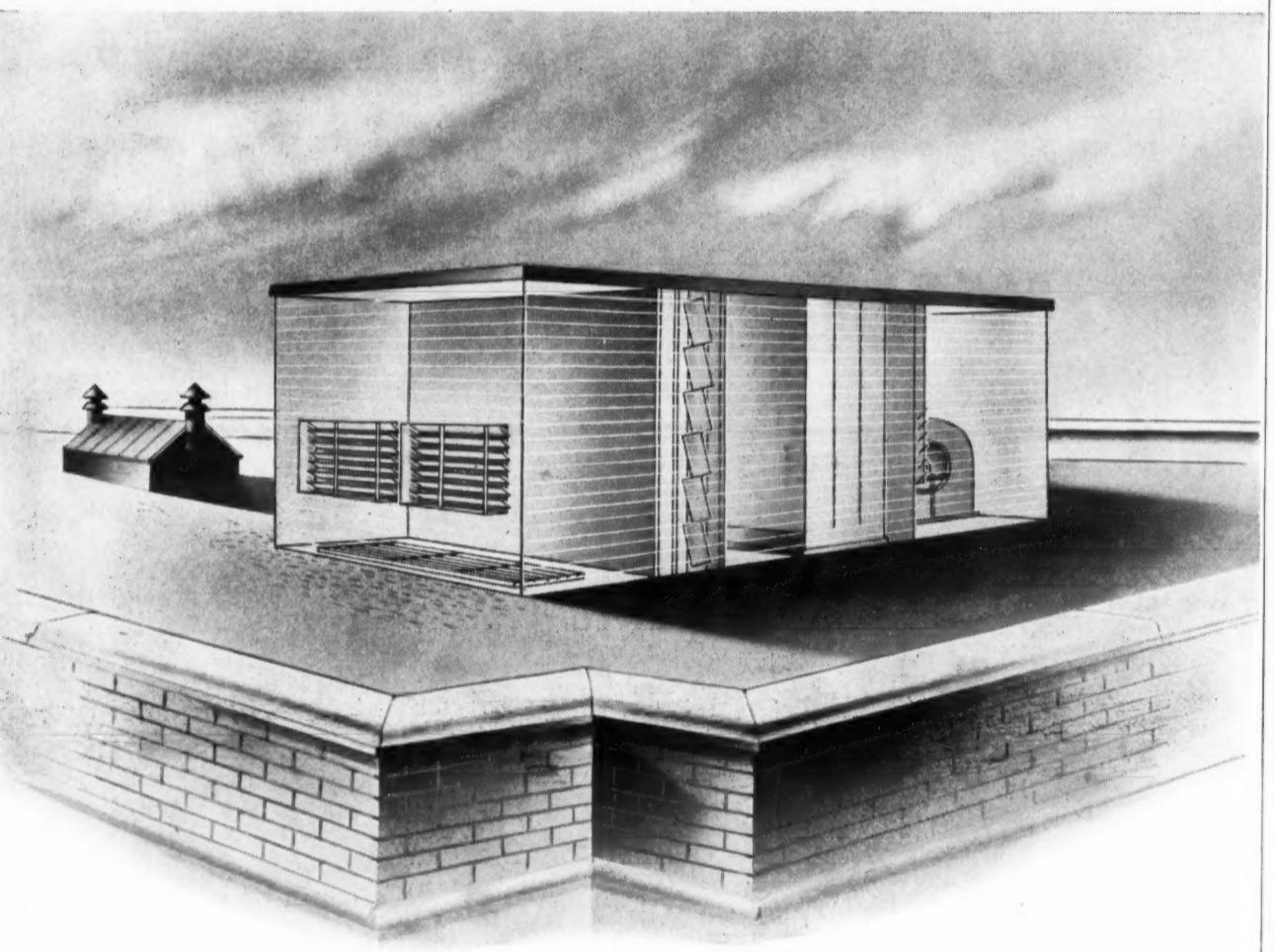
Remember...

This is evidence of your future market for new BEN-HUR FARM LOCKER PLANTS—a volume market ready just as soon as they can be produced.

Let us put your name on the list to receive complete data and sales information on BEN-HUR FARM LOCKER PLANTS, when this data can be released.

BEN-HUR MANUFACTURING CO.
634 E. Keefe Ave. Milwaukee 12, Wis.

Today . . . Back Our Fighting Men with MORE War Bonds



**Plenty of room up there,
but will the roof stand the weight?**

Ducts, dust collectors, humidifiers, fans and motors—add air conditioning as a means of meeting postwar competition, and you need them all. The roof is a fine spot for such equipment. It's out of the way, easy to get at for servicing, but there's this question—

Will the roof stand the burden of heavy equipment?

Lightweight aluminum will help meet that objection. Use it generously and reduce the loads roof trusses have to carry. Aluminum ducts distributing conditioned air throughout your plant place less burden on their supports. The lightness of alumi-

num makes handling and erection easier.

The corrosion-resisting ability of aluminum lengthens the life of all this equipment. Less attention for maintenance is required. Where humidities are high, there is no rusting to cause staining from condensation and dripping.

Manufacturers of air conditioning equipment have had a wealth of experience in working with aluminum both before and during the war. Its use introduces no unusual fabricating problems. ALUMINUM COMPANY OF AMERICA, 1975 Gulf Building, Pittsburgh 19, Pennsylvania.

Hedrich Predicts Most Home Freezers Postwar Will Be For Storage Only

Points Out Factors That Make Locker Plants The Logical Processing Centers For Users

By Phil Hedrich, Universal Cooler Corp.*

Now again we have the subject of low temperature cabinets. What factors will govern their future development, and how will they effect the frosted food industry as a whole?

Great things are expected by refrigeration manufacturers in this phase of business. It has been forecast that there will be anywhere from one million to three million low temperature cabinets manufactured and sold the first year they are released for production.

Experts, however, seem to agree that the figure will be around one and a half million. Many factors will govern this. If food rationing continues, after release of materials necessary for construction and manufacturing of low temperature equipment, the million and a half figure may be greater. And, by the same token, if food is released at the same time, the million and a half figure may be less.

With all due respect to OPA and the job they have done in holding down the cost of living, and aiding in the sharing of available goods,

*Address before the annual convention of the National Frozen Food Locker Association.

nevertheless, some of their methods have created the ambition on the part of a large portion of our population to do a little cheating. It is a matter to brag about among their friends if they can get a little more than the OPA calls their share.

The possession of a low temperature cabinet for the storage of these ill-gotten products such as meat and butter has been, and is even now, highly desirable. This has aided greatly in arousing the interest of the general public in low temperature cabinets. This talk has not been prepared to discuss the whys and wherefores of OPA, but it is mentioned here only that it does have a bearing on the subject.

As long as there is a need for extra food and we have food rationing, we will have victory gardens. At this point I would like to say that victory gardens have proven a Godsend to all of us during the war years, and victory gardens have done as much as anything else to sell the postwar buying public on the idea of buying low temperature cabinets.

What War Conditions Taught

Victory gardeners with low temperature cabinets and frozen food locker storage space have learned that they can preserve their superabundance of foods for future use while they are most plentiful and at their prime best. Then there is always the possibility with many to pick up a wholesale cut of meat with or without surrendering points. Generally speaking these people are the envy of their friends, who are anxious to do likewise, but due to limited locker storage facilities and restriction of cabinet production are unable to do so.

Some of these people will forget as soon as the food emergency passes, and if they do not obtain a cabinet before this date they may never purchase one. Happily, however, the vast majority of frosted food users, past, present, and future, did, do, and will want this equipment in the attainment of better living.

It is generally known and understood that good food properly processed and stored by the quick frozen method is far superior to foods preserved in any other manner. Their appearance, flavor, and nutritious value, including vitamin content, equal, and in a great many cases, surpass fresh products when obtained on the commercial market. Preserving foods by the quick frozen process is quicker and easier than canning, also, loss by spoiling is practically non-existent.

To insure a good product, the soil, variety, and the maturity development of the foods to be processed must be just right. In the future, government agencies, federal, state, and local, will specify which varieties of fruits and vegetables are best for the local soil conditions, and local seed stores will feature these varieties.

Freezing schools for frosted food processing will be as common as the pre-war cooking schools. These schools will be conducted by our retail stores, electric companies, and hometown newspapers, and will be in the hands of expert home economists.

Sharp Freezing Correctly

The process of sharp freezing foods is not complicated, but it must be done just right. As an example: if a product should be blanched one minute, it should be blanched one minute and not two minutes. Provisions must also be available for quick cooling immediately after blanching to insure a perfectly finished product. Equipment must be readily available to quick freeze the product. Allowing the product to remain too long at room temperature will defeat the whole purpose of this process.

Packaging is also a very vital factor in good frosted foods. The packages must be water and moisture vapor tight. If this rule is not observed, the longer the product is stored, the more it loses its original good properties.

Commercial packers of frosted foods have developed this process from soil and seed selection on through harvesting, preparation, packaging, freezing, transportation, storage, and final distribution to a high degree of excellence. A poor package of commercial merchandise is practically unknown.

Frosted food locker plants which were practically non-existent a few years ago and now number over 5,000 will probably number about 6,000 by the end of the war. Immediately after the release of materials this figure could double in one year.

On Jan. 1, 1942 the states of Iowa and Washington had 464 and 402 plants respectively—California and Ohio had 131 and 116—while New York and Massachusetts had only 18 and 2.

As Good as the Packer?

Postwar these figures will be more evenly distributed. As a result much of the preparation and quick freezing of non-commercial food products should be processed through these plants. They will have specialists to do the job very closely approximating or equaling the work done by commercial packers.

In fact, the only thing that probably will be lacking in these institutions will be the intricate, expensive testing devices with which the commercial packers insure their uniform quality. Therefore, much of the processing should be done in these local locker plants. The patrons may use the facilities or equipment of these organizations to do the preparatory work and packaging themselves, before quick freezing, under the supervision of the expert. But in most cases they will leave their vegetables, fruit, poultry, fish, meat, or wild game at the locker plant for processing, returning in a few days to transport it to their own low temperature cabinet or equipment at home.

Local locker plants now have (Concluded on Page 27, Column 1)

SALUTE TO THE WEST

This important, growing frontier is doing a magnificent job. Keeping pace with the growing West is the California Refrigerator Co., of San Francisco and Oakland, California, progressive jobbers in refrigeration and air conditioning supplies, replacement parts, equipment and tools.

Outstanding, indeed, is this company's record of long experience and dependability as an efficient source of supply, both for the armed forces and the civilian trade. In this day of unprecedented distribution problems, concentrated and intelligent effort is doing an important job—for today and tomorrow.

Clarence F. (Sandy) Pratt, President

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Design Problems In Combination Freezer-Storage Unit Described

(Concluded from Page 26, Column 5) most complete and generally good, meat processing facilities. The time of home butchering is rapidly passing from our American way of life. In the locker plant slaughtering is generally done under ideal and sanitary conditions. Chill rooms provide both proper chilling and aging of meat. Modern equipment and expert meat cutters permit faster, better butchering and processing, insuring better cuts of meat. They have facilities for salvaging trim and offals, lard rendering, etc.

Considering these conditions I have just outlined, I predict that most postwar home lockers, home freezers, low temperature cabinets, farm freezers—I prefer the terminology "home locker" as the easiest and most descriptive name—will be used for storage purposes only.

Locker plant operators stand at the threshold of astounding success or miserable failure. Some operators present in this room will find themselves in one category or the other. If plans or preparations are made now to skillfully handle this processing business to fill these home and farm lockers, then these operators need have no fear of their future prosperity.

If your aim in this business is to conduct an organization where the chief function is to rent locker storage space, it seems to me that you are doomed to failure.

What Policy Should Be

Last year at Des Moines we had a meeting one evening for the discussion of these home and farm lockers. I received the impression there that the locker operators would like the manufacturers of these units to hold the sizes to a capacity not to exceed 4 or 5 cu. ft. The reason for this, as one or two explained, was that they wanted to keep the patron dependent on them for their real storage facilities. They wanted to force their patrons to come to their locker plants at least once a week for replenishment of their home unit.

It is foolish to suppose that locker operators, either as individuals or an organization, can control this industry to this extent. Manufacturers will make the sizes the buyers will demand. Processing and service income, not locker rental income, will determine the success or failure of locker operators and the locker plant operating industry.

While a very satisfactory combination sharp freeze, storage cabinet can be made—to do so is complicated and expensive by comparison with plain storage cabinet manufacture. There is also the difficulty of keeping the unit in adjustment and repair due to the temperature controls necessary to accomplish the difference in sharp freezing and storage temperatures.

Such a cabinet would have to be powered by a much larger refrigeration condensing unit than the one required for the same cubic foot capacity of all storage space. This larger machine is then not required for the many long months of storage when there is no sharp freezing to

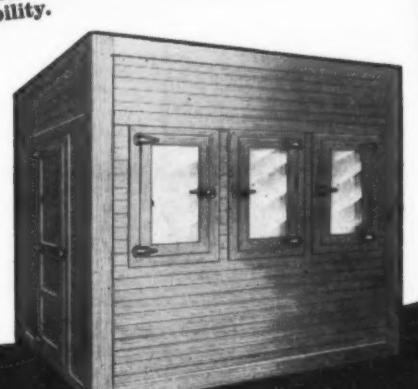


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AVAILABLE NOW TO BUYERS WITH PRIORITY...
any size or type. Amana's long experience in building "Walk-In" Coolers is assurance of efficiency and long service. Insulation of latest models is of corkboard or "Fiberglas" insuring extra economy and top cooling ability.

REFRIGERATION DIVISION
AMANA SOCIETY
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Awarded the Army-Navy "E" with White Star for continuance of excellence in production of war materials.



Deepfreeze Distributors, Inc., of Chicago Uses Both Store And Route Methods In Merchandising Frozen Foods

Nagler Tells Locker Group About Trends To New Frozen Cooked Foods, Baked Goods and Fruit Juices

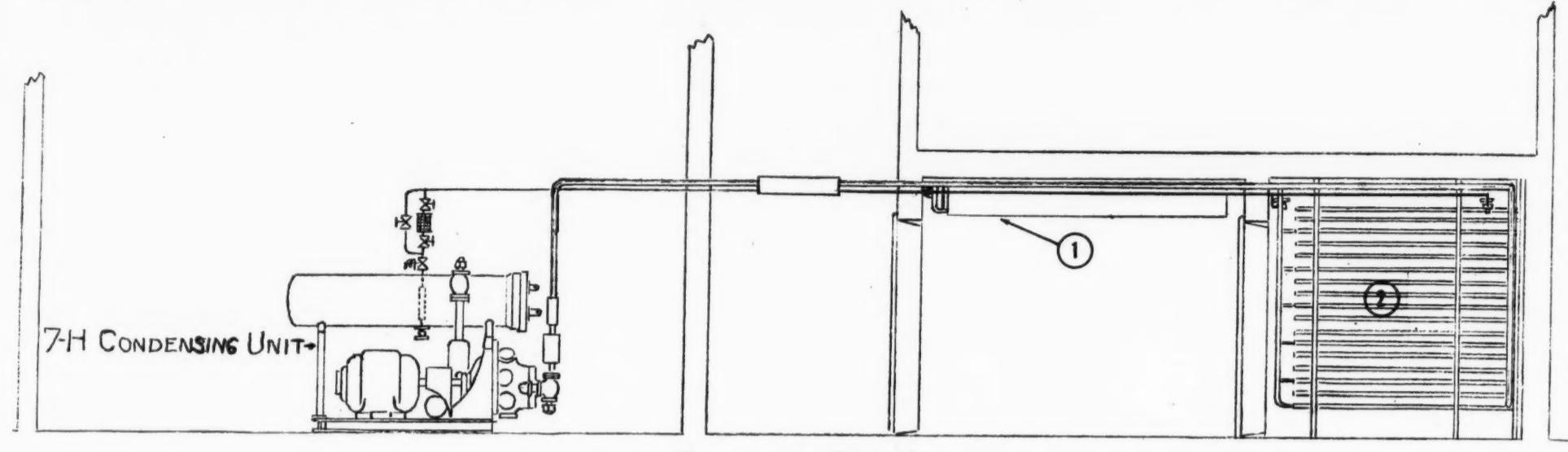
COLUMBUS, Ohio—How frozen foods are being merchandised successfully both through a store and by a "route method" by a distributor of home freezer units was described by R. E. Nagler of Deepfreeze Distributors, Inc., Chicago, before the recent convention here of the National Frozen Food Locker Association.

There will be others who will want to do their own processing in their own homes or on their own farms. There will, therefore, be a need and a demand for a limited quantity of home lockers embodying the quick freeze feature. The great volume, however, will be units for low temperature storage only.

Probable Home Unit Sizes

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How Modern Low-Pressure System Handles Fish Freezing and Storage Operations



This drawing shows how the Airtemp 25-hp. condensing unit serves the Dole cold plates in the storage room (1) and the freezing room (2) of a Florida fish-freezing plant.

Florida Fish Freezing Plant Installs New System Designed to Freeze Quickly and Store Fish Properly

KEY WEST, Fla.—How all kinds of food processing industries are realizing the value of modern refrigeration equipment was recently demonstrated here when The Tropical Quick Freeze Co. purchased an Airtemp 25-hp. radial methyl chloride condensing unit for fish freezing at their new plant from the Norton R. Ganger Co., Miami contractors for

Airtemp equipment.

The system, sold to Tom Hanley and Frank Dian, owners of the fish freezing concern, was designed by H. E. Schulze, Airtemp field engineer.

Key West, once the largest city in Florida due to the cigar manufacturing industry there, is again coming into its own because of the many

large army and navy installations built since Pearl Harbor. A newly opened 160-mile superhighway, has just been completed, which runs from Miami to Key West, and is expected to add greatly to its prosperity.

The owners of the newly formed processing company have purchased the old Armour Co. cold storage plant here, which has four cold stor-

age rooms and one ante room, and is equipped with an old-style ammonia system, probably about 20 years old, with a refrigerating rate based on 12 hours operation and at about 15 pounds pressure. The system is operated by a twin cylinder ammonia compressor at about 120 r.p.m.

Messrs. Hanley and Dian plan to convert two of the rooms to freezer holding rooms, and will increase the insulation from 4 inches to 8 inches cork. Mr. Schulze recommended the installation of a suction pressure regulating valve for the 35° room to keep from drying out the products stored due to low evaporating coil temperature in the ammonia cycle.

Using Dole plates and Airtemp 7-H condensing unit, the live load is estimated by Mr. Schulze to freeze about 300 pounds of fresh fish per hour. Refrigerating rate will be about 4 tons per hour, and with the ample surface in the quick freeze room, the suction pressure will be favorable.

The equipment used included one 7-H methyl chloride condensing unit with 25-hp. motor, 2 step starter, thirty-four 22 inches x 84 inches and seventeen 22 inches x 48 inches plates for the freezing room, twenty-four 12 inches x 108 inches Dole plates suspended from the ceiling of the storage room, one 20 inch fan, a freezer door, expansion valves, 300 pounds of methyl chloride, and one thermostat.

Philco Seeks to Extend Television Research

PHILADELPHIA—In a further development of its television research program which has been in progress since 1928, Philco has filed applications with the Federal Communications Commission for permission to experiment with television relays between Philadelphia and Washington, D. C., it has been announced by John Ballantyne, president.

"For the past three years Philco has successfully operated a television relay between New York and Philadelphia," Mr. Ballantyne said. "The applications that have just been filed with the F.C.C. are for the purpose of continuing our experiments with relays in order to run field tests where two or three relays are involved and to see how television signals react under these conditions."

"Philco's war research in the ultra-high frequency field has kept it in the vanguard of the latest television developments. Philco is continuing a broad program of television research in the ultra-high frequencies and has plans for a high frequency television transmitter. The field tests that the company proposes to run on the basis of the experimental licenses now being applied for should contribute further to television knowledge in this field."

UTILITY FAN CORPORATION

Peace-time manufacturer of the famous Utility Air Koolers, Blowers, Fans, Floor Furnaces, Circulating Heaters, Unit Heaters, and Forced Air Furnaces.

Available Now!

Utility Standard and Heavy Duty Blowers, Evaporative Air Coolers, Industrial Exhausters and propeller fans are now available under WPB regulations and priorities. Gas-fired heating equipment will be available when war restrictions are lifted to permit manufacture.

Illustrated literature, catalogs of performance data and details of Utility's marketing plans are available on request.



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Peace-time manufacturers of the Famous Utility Air Koolers, Blowers, Fans, Floor Furnaces, Circulating Heaters, Unit Heaters, Forced Air Furnaces.



Redmond MICROMOTORS ENGINEERED TO YOUR PRODUCT

GET SET for new ideas in motors of a twentieth horsepower and less. When you look at these Redmond Type "T" shaded pole Micromotors you'll find features that will add new life to your product.

Tailor made performance to suit your requirements is an actuality with patented Flush-Weld rotors.

Compact design results from the Redmond innovation of Air-Stream enclosed cooling which permits smaller size than ordinary

shaded pole motors of comparable power. New simplicity has been attained in the Pressure-Locked rubber mountings that save time in maintenance and have no bolts or nuts to work loose.

Correct alignment of every part after assembly is now a certainty by use of highly refined machining processes new to the small motor industry.

Write us today and get all the details. Ask about the Type "T" Micromotors.

A. G. Redmond Company

OWOSO, MICHIGAN, U. S. A.



Courtney to Manage G-C
Branch in Kansas City



ROBERT COURNEY

KANSAS CITY, Mo.—General Controls Co. has opened a new Kansas City branch at 421 Southwest Boulevard, with Robert Courtney in charge as branch manager. The new quarters provide facilities for serving customers in Kansas and in adjacent areas in Missouri, Nebraska, and Iowa.

WPB Eases Restrictions On Housing Materials

WASHINGTON, D. C.—Relaxation of restrictions on the use of materials that will permit construction of houses approximating prewar standards was announced Oct. 17 jointly by the War Production Board and the National Housing Agency. This action was taken by revision of Schedules I and II of Limited Preference Rating Order P-55-c of WPB. The relaxations, it was announced, resulted from an easing of shortages in certain critical materials and the effect of the changes will permit builders to make use of materials and equipment as they become available.

At the same time, it was announced that, under the relaxations, houses can be built to conform to the minimum construction requirements of the Federal Housing Administration of NHA under Title II of the National Housing Act.

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MORE POWER
Grips the grooves...
stops slip—flexible
construction for uniform
"pull!"

SILENT RUNNING
Smooth running and
noiseless on high-
speed drives.

LONGER WEAR
Endless cord con-
struction resists internal
heat and side wear.

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HIGH EFFICIENCY

**STORAGE TYPE
WATER COOLERS**
Cabinet & Remote Models

For heavy duty installations in Cafeterias, Mess Halls, Steel Mills, Shipyards, Foundries.

BE SAFE... USE FILTRINE

Water Coolers for all purposes including circulating systems, film processing, x-ray cooling.

Low Temperature Models now available for bakery and bottling plants. Water cooled to 34 degrees. Quick shipment. Write for details.

FILTRINE MANUFACTURING CO.
53 Lexington Ave., Brooklyn 5, N. Y.
Manufacturers for over 40 years"

Rural Development Dept. Organized By Westinghouse

MANSFIELD, Ohio—Formation of a Rural Market Development department headed by Alvan D. Peabody to enable Westinghouse Electric & Mfg. Co. to participate in the expanding rural demand for electrical appliances and farm equipment has been announced by T. J. Newcomb, sales manager of the Electric Appliance Division.

"The American farmer realizes the true advantages of electric power to the operation of his enterprise and how this power can eliminate time consuming farm chores and help him produce his goods at a lower cost," Mr. Newcomb said.

The farm market is one of the great postwar fields for the marketing of electrical appliances. The more than two and a half million farms now using electricity are building up a tremendous demand for appliances which they can't get now but will get when they are available," he continued.

He also pointed to the Rural Electrification Administration's estimate that it is "practical and feasible" to serve more than five million farms with electricity as soon as materials are available—more than double the electrified farms listed today.

Predictions for volume sales in the farm market include a 10 year market of 600 million dollars a year, 775 million dollar market in the first 18 months of production, and a two to two and a half billion market in two years, Mr. Newcomb said, adding:

"These sales volume figures are reported by reliable sources. A good indication for the justification of such statements is found in the increase of individual average farm income from \$1926 in 1941 to \$3242 in 1943."

Under Mr. Peabody, the new rural market development program will include analyzing the farm market and working with various product departments to develop appliances that fit farm needs.

Westinghouse distributors will be advised on farm market trends and means by which they can service and sell to the rural consumer. An educational program to familiarize county agents and county home demonstrators on the economic value of electricity to the farmer will be undertaken by Mr. Peabody. Included in this phase of the new department's work will be contacts with private utilities, trade associations, and R.E.A.

The new manager came with Westinghouse in 1907 as a member of the two year Student Course for College and Technical School Graduates, after having graduated from the Bliss Electrical School, Washington, D. C.

At the end of his company training, Mr. Peabody was assigned to Industrial Power Sales, then resigned in 1910 to enter the retail electrical and contracting business. He returned with the Electrical Merchandising Division in 1932 and worked in that division until his present appointment.

WPB Drops Pooling Plan On Electric Clocks

BRIDGEPORT, Conn.—Under a recent WPB ruling General Electric's alarm clock will have its face lifted on Nov. 1.

Since the resumption of limited electric alarm clock manufacture this product has had no trademark, simply bearing the words "War Alarm" on its face. As of the above date General Electric's trademark will appear in place of "War Alarm." This is now permissible because of WPB's discontinuance of the pooling plan under which the alarms were made.

C. R. Thorson, sales manager of G-E's clock division, stated in a letter to the company's clock distributors that the new model will be "identically the same clock" as the first, except for the trademark.

In his letter Mr. Thorson pointed out that General Electric's plants are engaged 100% in war work, and the company was able to comply with the request of the WPB for increased production of electric alarm clocks only when it established additional manufacturing facilities in a non-critical labor area.

Seeger Names Lund Head of Research

ST. PAUL—Appointment of C. E. Lund as director of research for the Seeger Refrigerator Co. here, was announced by Walter G. Seeger, president.

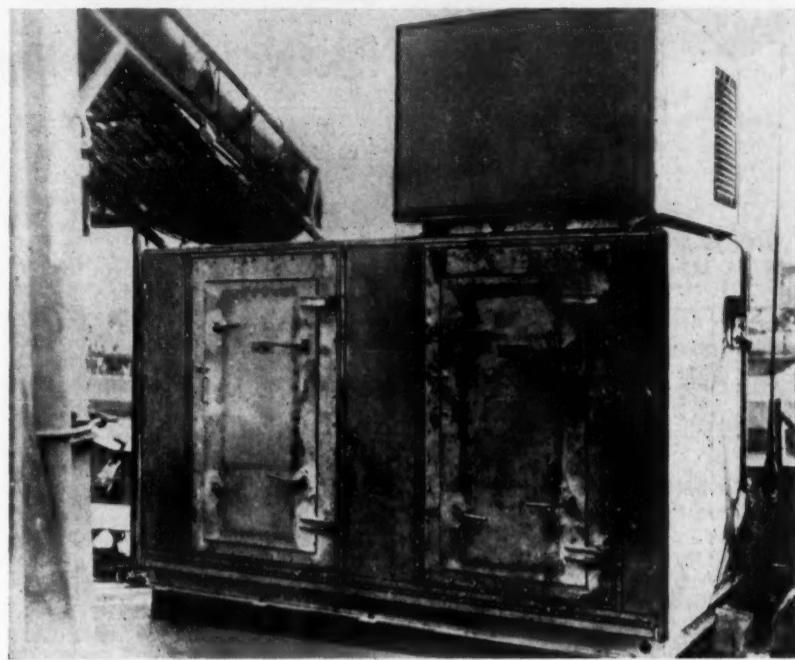
Mr. Lund has been in the refrigeration and air conditioning field since graduating from the University of Minnesota as a Bachelor of Mechanical Engineering and Master of Science in Mechanical Engineering.

He comes to Seeger from the position of associate professor and assistant director of the Engineering Experimental Station of the University of Minnesota, where he worked in cooperation with Prof. F. B. Rowley, director of the Engineering Experiment Station, and Dr. R. C. Jordan, associate professor and director of Industrial Engineering Laboratories.

Together Mr. Lund and Dr. Jordan developed the refrigeration laboratory of the University of Minnesota and built the course in Applied Refrigeration which is sponsored by the U. S. Office of Education under the Engineering Science Management War Training Program.

In 1937 he was research engineer of the University of Minnesota in charge of Cooperative Industrial Research under Prof. F. B. Rowley, specializing in the study of moisture and vapor transmission through insulation. Together Prof. Rowley and Mr. Lund wrote a series of publications dealing with this subject.

'Reefer' Rides Deck of Destroyer



Exposed to all varieties of weather, this sea-going walk-in cooler is mounted on the deck of a destroyer of the U. S. Navy. The box is constructed of the patented Lindsey Structure material. Condensing unit is housed in the special compartment above the cooler.

Kacher Heads Branch Office

MINNEAPOLIS—A. C. Kacher has been appointed manager of the Minneapolis branch of the Westinghouse Electric Supply Co.

Mr. Kacher joined Westinghouse in St. Paul, Minn., as an inventory clerk in 1921. Since 1929 he has been an apparatus and supplies salesman in Minneapolis, Minn.

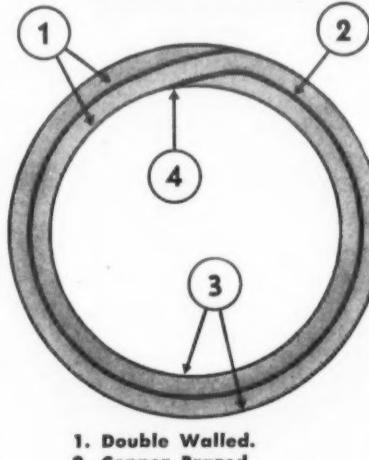
Allen Refrigeration Is New Los Angeles Firm

LOS ANGELES—Allen Refrigeration Service is the firm name under which Allen R. Busey, Jack G. Salmon, and Martin N. Link have published a certificate that they are conducting business at 4354 South Vermont Ave., Los Angeles.

SOON YOU'LL WANT **BUNDYWELD STEEL TUBING** FOR PEACETIME PRODUCTION



Look at Bundyweld Construction!



1. Double Walled.
2. Copper Brazed.
3. Copper Coated, inside and out.
4. No Inside Bead.

Trucks, cars, refrigerators and gas ranges are but a few of the many peacetime products that depend on Bundy for their "life lines."

The unique Bundyweld construction assures outstanding strength and resistance to vibration fatigue. A solid, double-walled tubing, laterally rolled from a single copper-coated S.A.E. 1010 steel strip and copper brazed throughout the entire 360° of wall contact, Bundyweld pro-

vides a soft temper and uniform wall thickness. Furnished hard or annealed in a wide range of standard diameters and gauges up to 5/8" O.D. Special sizes, cold drawn in Monel.

For further information on the use of Bundyweld in connection with your war or peacetime tubing problems, contact our nearest representative or write us. Bundy Tubing Company, Detroit 13.

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ENGINEERED TO YOUR EXPECTATIONS

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VALVES AND FITTINGS
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CARTRIDGE DEHYDRATOR With Side Outlet and Dispersion Tube
Ask your jobber for it.
Filled With Silica Gel or Activated Alumina
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PRIME SURFACE Cold Plates
FOR MAXIMUM EFFICIENT REFRIGERATION
★ For Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.
Write us today for complete information and catalog.
Standard Facilities are contributing to the production of materials for our National Defense.
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IMPERIAL
Flaring Tools
• built to conserve precious minutes
• designed to do a job that's right the first time
Imperial Flaring Tools are especially valuable under current conditions. They help speed up tubing connection work and they make joints that are tight and stay tight.
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Humi-Temp Forced Convection Units—Patented CROSS-FIN-COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—Air Conditioning Coils—Industrial Units
LARKIN COILS, Inc., 519 Memorial Dr., S.E., Atlanta, Ga.

INTERLOCKING TWO-TEMPERATURE CONTROL
Type 91-0, for walk-in coolers, display cases, florists' boxes, etc. Assures uniform fixed temperature, uniform high relative humidity, completely automatic defrosting of the coil.
Depend on Your Ranco Jobber
For all types of Pressure and Temperature Controls—commercial and domestic—depend on the advice of your Ranco Jobber. He has the exact control you need, or can recommend a simple adaptation.

Scientific Hiring of Salesmen Can Help Postwar Selling Problems, Warmee Says

NEW YORK CITY — Scientific hiring of salesmen has increased the "success" rating from the usual 30% to 70% for Minneapolis-Honeywell Regulator Co., Roy Warmee, sales promotion manager, told a recent meeting of the Sales Executives Club here.

Describing this method as the "radar" of industry, Mr. Warmee outlined the scientific selection program used by Minneapolis-Honeywell for the past six years in recruiting, hiring, training, and counselling its sales organization.

NEW CONTROL POSES PROBLEM

Minneapolis-Honeywell has expanded its use of scientific hiring of salesmen because of the new problem posed by introduction of improved heating controls for postwar homes and apartment houses, Mr. Warmee declared.

"The Moduflow control system, recently announced, employs technical

advances over our prewar type of product, and as a consequence, we have felt the need of better equipped personnel to develop broader postwar markets," he explained.

Continuous use of the following procedures is the basis of the plan:

- (1) Comprehensive recruiting,
- (2) personal history in the application form,
- (3) a diagnostic interview,
- (4) weighted interview,
- (5) a battery of selected tests,
- (6) interpretation of test in second interview, and
- (7) employee counselling.

Personal history in the application form means that the application blank should be properly planned to enable the job applicant easily to paint a clear, accurate picture of himself, Mr. Warmee said.

ANALYZE CHARACTERISTICS

"The diagnostic interview is the first 'real' interview we have with the applicant. Here we probe a little deeper behind the information he has given us in writing, and we have a chance to analyze those personal characteristics, such as appearance, poise, and his attitude toward his work, his fellow men, and his future."

In the weighted interview the company makes the first attempt to grade the applicant for certain qualifications. If the man grades high enough he is invited to take a series of aptitude and ability tests. If he fails to make the minimum grade in this weighted average, he is dropped.

APTITUDE MEASURED

The battery of selected tests measures the applicant's natural and acquired characteristics, his ability to learn, and his ability to get along with and influence other people. These tests are sent to the Personnel Institute, Chicago, for grading and interpretation, Mr. Warmee said.

In the sixth step, interpretation of test in second interview, the applicant is told the results of his previous tests, and while tests are not always perfect, "we take this opportunity to adjust our interpretations and the recommendations of the Personnel Institute to suit the circumstances of the individual. By this time we have a fairly accurate measure of the man under consideration. We have a sound basis for hiring him," explained Mr. Warmee.

Employee counselling is applied after the man is hired and he develops or fails to develop on the job, Mr. Warmee said.

3 Men Appointed To OCR Field Organization

WASHINGTON, D. C.—Moves to strengthen the field operations of the Office of Civilian Requirements, War Production Board, have been announced by William Y. Elliott, WPB vice chairman for Civilian Requirements.

In charge of all OCR field relations will be Edward R. Gay, of New York City, Assistant Vice Chairman for Civilian Requirements. His deputy will be Arthur B. Holmes, of Alexandria, Va., formerly of the Operations Analysis Branch of WPB's Division of Budget Administration.

Mr. Elliott also named John C. Diebel, of Youngstown, Ohio, former OCR assistant field officer, as the first of several field liaison officers who will be responsible for the integration of the OCR field operations with Washington headquarters.

Progressive!

That could well describe the whole attitude of Ranco engineers—but we have in mind one specific example, Progressive Inspection. As each sub-assembly is completed, it receives its own separate inspection. Progressively, each Ranco Control gets several inspections, with parts in plain view. The final completed assembly is checked, too, to make sure it's right.

You can put your confidence in progressive Ranco Controls—carefully engineered, painstakingly assembled, progressively checked and inspected.

Ranco Inc.
COLUMBUS 1, OHIO

Sterling Co. Announces New Diesel Line

BUFFALO—A new line of "Viking" diesel engines ranging from 250 to 650 hp. to be introduced postwar by the Sterling Engine Co. will find wide application in air conditioning, refrigeration, and heating fields, the company believes.

These new power units have been designed to the same overall dimensions and weight of the company's Viking gasoline engines of equivalent horsepower, permitting simplified substitution of diesels for gasoline-powered engines where desired, points out Addison F. Vars, Sterling's president.

REPLACEMENT POSSIBILITIES

Over-age gasoline units might be replaced, but also the lowered consumption of a lower cost fuel claimed to be inherent in diesel operation may mean a profitable substitution for gasoline engines, he added.

Ratings for the new diesels are as follows: 6 cyl. unsupercharged, 250 hp. at 900 r.p.m. to 325 hp. at 1,200 r.p.m.; 6 cyl. supercharged, 370 hp. at 900 r.p.m. to 500 hp. at 1,200 r.p.m.; 8 cyl. unsupercharged, 330 hp. at 900 r.p.m. to 450 hp. at 1,200 r.p.m.; 8 cyl. supercharged, 500 hp. at 900 r.p.m. to 650 hp. at 1,200 r.p.m.

Moving parts of the diesels are of conventional design, the engines being of 4 cycle, multiple cylinder, in line, trunk piston type construction, completely enclosed. Cylinder block is cast in a single piece, and cylinder heads are arranged individually for each cylinder and fastened to the top of the block.

Fuel injection system consists of individual injection pumps, one for each cylinder located close to each injection nozzle. Bore and stroke for all models is 8 by 9 in., giving a displacement of 2,714 cu. in. for the 6-cyl. model, and 3,619 cu. in. for the 8-cyl. line.

Classification Changes Ask By Exporters

WASHINGTON, D. C.—At a meeting of the Foreign Trade Committee of the Air Conditioning & Refrigerating Machinery Association, Inc. last month, the chief topic of discussion was the need for a revision of the commodity classifications for refrigeration and air conditioning equipment, as covered in Schedule B, "Statistical Classification of Domestic and Foreign Commodities Exported from the United States."

Pointing out that the present commodity classifications are very confusing, the Committee is urging that the Bureau of the Census revise the classifications before issuing the 1945 edition of Schedule B.

Attendance at the Committee meeting was as follows: Gunnar Berg (Westinghouse Electric International Co.), John Carr (York Corp.), A. J. Dangoia (Westinghouse Electric International Co.), E. H. Gaither (B. F. Sturtevant Co.), C. R. Harris (Carrier Corp.), F. L. Maggini (International General Electric Co.), E. C. Pangburn (International General Electric Co.), J. G. Robertson (General Motors Overseas Operations), H. P. Stewart (Chrysler Corp.), H. E. Wood (Worthington Pump & Machinery Corp.), and Miss Mary Jane Stewart, secretary of ACRMA.

Combustioner Promotes Three Executives

SPRINGFIELD, Ohio—Promotion of three executives in the Combustioner Division of Steel Products Engineering Co. here has been announced by R. C. Goddard, vice president.

C. P. Meredith becomes general sales manager of the Combustioner stoker division; H. E. McCampbell has been named commercial sales manager; and C. "Gib" Brelsford, manager of the service department.

Tudor Refrigeration Co. Formed In Los Angeles

LOS ANGELES—Tudor Refrigeration Co. has been incorporated in Los Angeles, with a capital of \$200,000. Directors are: G. George Brauer, M. F. Powell, and Albert L. Le Deuc, all of Los Angeles.

Alexander Resigns OCR Wholesale-Retail Post

WASHINGTON, D. C.—Resignation of Dr. R. S. Alexander as head of the Office of Civilian Requirements' Wholesale and Retail Trade Division has been announced by William Y. Elliott, War Production Board Vice Chairman in charge of OCR. Dr. Alexander, who has been on leave of absence from Columbia University, will return to his position as associate professor of marketing in the School of Business.

Dean C. Gallagher, of Washington, D. C., deputy director of the Wholesale and Retail Trade Division, will take over administration of the work connected with the "Declaration of Policy," it was announced.

Foster Supply Co. Occupies Large Buffalo Building

BUFFALO, N. Y.—Foster Supply Co., refrigeration parts jobber, has moved into a large, three-story building at 1071 Main St. here.

refrigeration products
feeders
BUFFALO, N. Y.

Send for Bulletins
on Wagner
ELECTRIC MOTORS
MU-182 and MU-183
Wagner Electric Corporation
6441 Plymouth Ave., St. Louis 14, Mo., U.S.A.

UNIVERSAL COOLER
MARION OHIO WE SELL TO MANUFACTURERS ONLY
UNIVERSAL COOLER CORPORATION
Automatic Refrigeration since 1922

AUTOMATIC
Pressure, Temperature and Flow Controls
Write for Catalog 52

G E C CONTROLS
801 ALLEN AVENUE
Branches: Boston • New York
Philadelphia • Cleveland
DETROIT • CHICAGO • DALLAS
DENVER • SAN FRANCISCO

PAR
COMMERCIAL REFRIGERATION UNITS FOR PROTECTION OF VITAL FOOD SUPPLIES
See Your Par Jobber
LYNCH MANUFACTURING CORP.
DEFIANCE, OHIO, U.S.A.

Use CHICAGO SEALS
for seal replacements
A complete line in all sizes
CHICAGO SEAL CO.
20 North Wacker Dr., Chicago

MOISTURE'S MASTER
DAVISON'S
SILICA GEL
—USED IN ALL WELL-KNOWN DRYERS
YOUR JOBBER CAN SUPPLY YOU

MIDWEST
Household and Commercial Refrigerator Cabinets
New Making VITAL WAR PRODUCTS for Army and Navy
MIDWEST MFG. COMPANY
CHICAGO, ILLINOIS

1944
Refrigeration Supply Catalog
Sent on request
REFRIGERATION EQUIPMENT CO.
101 E. 24th St., Kansas City 8, Mo.

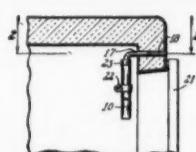
Established 1886 CURTIS REFRIGERATION AIR CONDITIONING THE COMMERCIAL
Curtis Refrigerating Machine Division of Curtis Manufacturing Company 1912 Kienlen Ave. St. Louis, Mo.

CLASSIFIED ADVERTISING

PATENTS

Weeks of Sept. 19 & 26

2,358,425. WARNING SIGNAL FOR REFRIGERATORS AND THE LIKE. Arthur J. Tickell, Bethany, Conn., assignor of one-half to John J. Leary, New Haven, Conn. Application Oct. 27, 1941, Serial No. 416,647. 3 Claims. (Cl. 177—311.)



EQUIPMENT FOR SALE

FOR SALE: Milk Coolers, Bottle Coolers, converted Freezers. 1,000 complete High-sides Frigidaire, Kelvinator 1/4 H.P. to 1 H.P. Motors up to 5 H.P. send for list and price. EDISON COOLING CORPORATION, 310 E. 149th St., New York, N.Y.

BEER COOLERS, direct draw for 2 half barrels capacity, with remote 1/4 H.P. condensing unit. Brand new \$400. General Electric self-contained milk coolers 4 and 6 can capacity. Hussmann 68 cubic foot porcelain reachins. Other sizes available. Call Rittenhouse 6359 or write JORDAN REFRIGERATOR CO., 235 N. Broad St., Philadelphia 7, Pa.

FROSTED FOOD cabinets. 35 cubic foot capacity. Four-door reach-in type. All steel, heavy low-temperature insulation. Rustproof steel interior. Baked sprayed white exterior. Equipped with chilling shelves. \$490.00 net, including self-contained 1/2 H.P. Universal compressor, ready to plug in. GENERAL REFRIGERATOR CO., 5400 Eadom St., Philadelphia 37, Pa.

REACH-IN REFRIGERATORS. 35 cubic foot capacity. Four doors. All steel construction. Glass-wool insulation. Porcelain interior. Baked sprayed white exterior. Sturdy grid-type steel shelves. Diffuser type coil. \$410.00 net, including self-contained 1/2 H.P. Universal compressor, ready to plug in. GENERAL REFRIGERATOR CO., 5400 Eadom St., Philadelphia 37, Pa.

ICE REFRIGERATED bottle coolers. Three-case capacity. Streamlined. All steel, heavily insulated. Casters. Also, for cooling fish, storing cracked ice, etc. Suitable for homes. \$19.00 net, F.O.B. Philadelphia. New. No Priority. Streamlined. 100 bottle capacity size, \$36.50 net. Convertible for mechanical operation. GENERAL REFRIGERATOR COMPANY, 5400 Eadom Street, Philadelphia 37, Pa.

POSITIONS AVAILABLE

BEST OPPORTUNITY in all America during and after the war. San Diego, Calif. Offers you everything worth living for. We need good service men. Will pay top wages, time and a half and double time for over 44 hours plus liberal commissions. WRIGHT REFRIGERATION SERVICE, 1333 India St., San Diego 1, Calif.

REFRIGERATION ENGINEER to work with an old reliable company in the development of farm and home freezers. Excellent opportunity for right man. Must have sound ideas and initiative. Outline education, experience in first letter and indicate salary expected. Box 488, Ithaca, New York.

REFRIGERATION SERVICE MAN for commercial refrigeration and sales in expanding organization. Starting rate \$1.10 per hour plus commission and car allowance, expense account. Give full details about yourself and experience first letter. Box 1620, Air Conditioning & Refrigeration News.

SHOP SUPERINTENDENT. Must have ability to train and handle men. Thorough knowledge of compressor rebuilding, motor repair, and general shop practice required. Permanent position, well established organization. Salary \$325 per month. Box 1618, Air Conditioning & Refrigeration News.

SHOP FOREMAN. Man with refrigeration experience essential. Large well equipped shop in Chicago. Excellent opportunity for man with complete understanding of Refrigeration shop procedure. Write details of experience and salary expected. Box 1627, Air Conditioning & Refrigeration News.

SALES ENGINEER. Established Mid-western manufacturer of refrigeration accessories offers opportunity to young sales engineer to contact manufacturers and jobbers either in Middle West or East. Permanent position. Attractive salary. State experience and qualifications first letter. Box 1628, Air Conditioning & Refrigeration News.

DESIGNER and Refrigeration Engineer thoroughly familiar with commercial refrigeration for old established manufacturers, soda fountains, ice cream cabinets, food refrigerating equipment. Must be capable, assuming responsibilities in development, designing, redesigning our equipment. Position offers unusual opportunity for experienced, imaginative, creative man. State full particulars. THE FISCHMAN CO., 10th & Allegheny Ave., Philadelphia 33, Pa.

FRANCHISES WANTED

LEADING JOBBERS South Africa, established connection, want to contact manufacturers and/or representatives all types refrigeration and air conditioning accessories including Fractional Horse Power Electric Motors and components with view of representing them and marketing their products. Southern Africa. Box 1599, Air Conditioning & Refrigeration News.

POSITIONS WANTED

SFIELD SALES supervisor. Electric refrigeration and appliances. Following qualifications: promotional, merchandising, educational training of retail and wholesale salesmen, aggressive, ambitious. Many years with present employer. Know Pacific Coast territory. Desire connection with manufacturer for Pacific Coast. Best references. Box 1629, Air Conditioning & Refrigeration News.

Major Krich started Army life as a private in January, 1941, and became a master sergeant before going to Officers Candidate School at Camp Lee, Va. In July, 1942, he was commissioned a second lieutenant and assigned to his present station.

How Blow-in Insulation For Household Boxes Cuts Cost Told To Detroit ASRE

DETROIT—The method developed by Wood Conversion Co. to blow Balsam-wool insulation into household refrigerators was outlined for the Detroit Section of American Society of Refrigerating Engineers at the October meeting by H. A. Gorman, recently appointed Chicago district manager for the St. Paul, Minn., company.

In addition to presenting a sound movie in technicolor entitled "Timber to Temperature Control," Mr. Gorman gave additional information on the subject, emphasizing the great saving in shipping and storage space claimed for this type of insulation.

Enough insulation to supply 1,750 household refrigerators can be carried in one railroad boxcar if the blow-in type insulation is employed, according to Mr. Gorman, whereas four carloads of the standard batt-type insulation would be needed for the same number of units.

This is possible because the balsam-wool fibers can be compressed to 25% of their normal volume for shipping due to the high degree of elasticity of the product, he declared. In addition to reducing shipping costs, the compressibility feature cuts the storage requirements of the

household refrigerator manufacturer, he said.

The average household box can be completely insulated within 18 seconds by this method, according to Mr. Gorman, who also pointed out that special machinery, controls, and fixtures are involved in its use.

Necessary equipment includes a conveyor to carry bales of fiber to the blower, a fixture to permit blowing the fiber in from the front of the cabinet before the food compartment liner is installed, and a system of controls.

Cost of this equipment is offset by several factors, Mr. Gorman claims. In addition to the previously mentioned shipping and storage advantages, and speed of installation, having the insulation in bulk form means that it won't be wasted if the manufacturer makes drastic design changes. Of course, he said, such a change might require a different fixture.

One prime advantage claimed is that blowing in the insulation forces it into all corners, and curved spaces present no problem. During the operation blow-in pressure reaches a high of 45 in. of water, at which point the operation is automatically stopped.

Pointing out that speed with which magnesium can be machined, and the fact that current market prices for magnesium had been brought down to "about 20 cents a pound," Mr. Lansing said that magnesium at present is "in excellent competitive position," on a unit cost basis.

Wide Use of Magnesium Predicted After War

NEW YORK CITY—Widespread use of magnesium to reduce dead weight in postwar commercial and consumer products, thus making possible faster machines and easier to handle household appliances, has been predicted by R. P. Lansing, vice president, Bendix Aviation Corp.

Speaking before the first annual meeting of the Magnesium Association, Lansing, whose company operates one of the largest magnesium foundries in the country, based his prediction upon progress of the industry during the war.

"We are in a position today where we have solved the major problems of fabricating and protecting magnesium and of being able to offer a full range of magnesium products to meet those uses for which its properties of light weight and strength most aptly fit it," he stated.

Citing the fact that even before the war a printing press manufacturer was able to increase the speed of his presses by 25% through the use of "this lightest of all practical structural metals," Mr. Lansing predicted its use in such applications as household appliances, knitting machines, bread slicing machines, portable hand tools, radios, office machines, cameras, and the like.

Warning the industry that their largest present market, aircraft, is in for "serious curtailment," he said that immediately following the cessation of hostilities the industry could look for sales of about 1,500,000 pounds of fabricated magnesium per month as against its present fabrication capacity of 15,000,000 pounds a month.

"Of this capacity, about 13 million pounds per month is in casting facilities, divided between about 11 million pounds per month in sand castings and around two million pounds per month in permanent mold and die castings," Mr. Lansing pointed out.

"Capacity in wrought magnesium, including sheets, extrusions, and forgings runs roughly around two million pounds.

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Labor Requests Okay on Components For Reconversion

(Concluded from Page 1, Column 2)
equipment, labor representatives estimated.

Members of both committees advocated gradual relaxation—not complete abolition—of WPB controls after "V-E" Day. Small manufacturers can be assured of a fair share of materials only if controls are retained, members warned. They also urged that Government-owned plants be converted to civilian production only after the reconversion of privately owned plants.

Members present at the meetings were:

Robert Arnold, United Electrical, Radio and Machine Workers of America (C.I.O.), New York City.

Joseph Besch, International Association of Machinists (A.F.L.), Washington, D. C.

Willard Bliss, United Electrical, Radio and Machine Workers of America, Syracuse, N. Y.

Neil Brant, United Electrical, Radio and Machine Workers of America, Washington, D. C.

Walter Campbell, International Union, United Automobile Workers of America (A.F.L.), Muskegon Heights, Mich.

Kenneth Cole, United Automobile Workers (C.I.O.), Washington, D. C.

Irving Crane, United Electrical, Radio and Machine Workers of America, Chicago, Ill.

Robert French, United Electrical, Radio and Machine Workers of America, Schenectady, N. Y.

Reginald Greenham, Mechanics Educational Society of America (Ind.) Detroit, Mich.

Marvin Hunt, United Electrical, Radio and Machine Workers of America, St. Joseph, Mich.

Lem Markland, United Electrical, Radio and Machine Workers of America, Dayton, Ohio.

Arthur L. Mason, Local 1327, United Steelworkers of America (C.I.O.), Ripon, Wis.

James Poulton, International Association of Machinists, Baltimore, Md.

Frances Sayler, United Electrical, Radio and Machine Workers of America, Washington, D. C.

Ted Silvey, Congress of Industrial Organizations, Washington, D. C.

Alfred Smith, Mechanics Educational Society of America, Detroit.

Jack Wasson, United Electrical, Radio and Machine Workers of America, Fort Wayne, Ind.

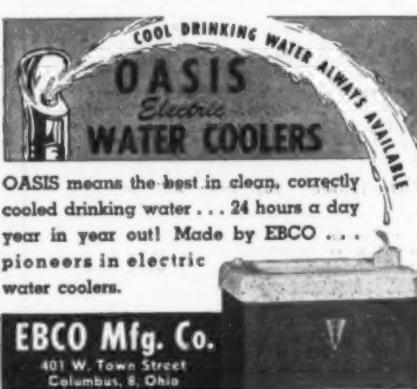
Gilligan Is Philco Advertising Chief

PHILADELPHIA—John F. Gilligan has been appointed advertising manager of Philco Corp., it was announced by James H. Carmine, vice president in charge of merchandising.

Mr. Gilligan joined Philco in 1922 and has served in important positions in the sales, advertising, and order departments.

In 1931, he became assistant to Larry E. Gubb, then general sales manager, and now chairman of the board of directors of the company. In addition to his other activities at that time, he set up and directed the company's statistical and market research section.

In 1936, Mr. Gilligan was named manager of the Specialty Division and for the following five years was in charge of sales of Philco radio-phonographs and farm radio receivers. During the war emergency, he has been serving as manager of the Priorities Division.



Gorton Named Manager Of 'CP' Range Drive

Norge Distributors Hear Postwar Plans

(Concluded from Page 1, Column 2)
department stores, and the architectural and building fields.

A dealer promotional package will be available to utilities for distribution to their dealers. This kit will contain a complete pre-selling program, window displays, newspaper advertising mats, guides to the selection of salesmen, guides to store planning, and other material.

Ninety-five per cent of all gas utilities have indicated their intention of promoting gas ranges bearing the "CP" seal.

The "CP" seal is the trademark of the Association of Gas Appliance & Equipment Manufacturers.

DETROIT—Preparing for a post-war volume 50% greater than the best previous peace-time year, Norge Division, Borg-Warner Corp. is holding a series of four meetings for all Norge distributors to outline merchandising measures to handle this expanded production, announces M. G. O'Hara, vice president in charge of sales.

First meetings were held in Detroit Oct. 12, 13, and 14. Other meetings with distributors were scheduled for Oct. 18 in Denver; Oct. 31 and Nov. 1 in New York City; and Nov. 6 and 7 in Memphis.

Future merchandising program for the company was completed by sales and other officials at the meeting held in Detroit Sept. 20 and 21. Here con-

templated advertising, sales promotion, sales training, and allied plans were outlined and studied to make final recommendations.

"We must consider the first year as an investment for the future and are planning to act from the start as if we were in a highly competitive market," explained Mr. O'Hara.

In addition to outlining merchandising plans for Norge's prewar line of refrigerators, gas and electric ranges, washing machines, and home heaters, officials are explaining new products now being developed. A special session is devoted to presentation of newly designed dealer aids such as outdoor and indoor illuminated signs, display backgrounds, and other material.

Retention of Leadtime Asked By Tubing Group

WASHINGTON, D. C.—Retention of the present leadtime for delivery of tubing was recommended recently by the Tubing Industry Advisory Committee, the War Production Board has reported.

Until future events change the situation sufficiently, scheduled productions and deliveries can be made generally within the leadtime period industry members said.

Tubing shipments during August amounted to approximately 80,000 tons. The carry-over, representing less than two weeks' production reached about 40,000 tons. This is a favorable trend, since the amount of carry-over is expected to decrease



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